



The hub of Madagascar's sapphire region, Ilakaka, September 2008.
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Digging for Trouble

VIOLENCE AND FRONTIER URBANIZATION

INTRODUCTION

In 2008, Redeyef, a phosphate mining town in Tunisia's Gafsa mining basin, experienced months of protest and security force violence that claimed three lives and injured dozens (Chouikha and Geisser, 2010). The protests had emerged in response to a lack of work opportunities and unaccountable and unfair application procedures for mining jobs. For despite the significant wealth generated by phosphate extraction, the Gafsa mining basin remains one of the poorest regions of Tunisia. By 2008, youth unemployment was almost 40 per cent in some of the mining towns (Vann, 2008), partly due to new extraction procedures that had cut personnel requirements by 75 per cent since 1980 (Gobe, 2010, pp. 4–5).

In Madagascar, the establishment in 2008 of a new nickel and cobalt mine completely transformed the formerly small urban area of Moramanga. Following an influx of foreign workers, local labourers, and private security personnel, most of the town inhabitants have been living in informal housing without access to basic services. Violence in the form of armed break-ins and robberies—often organized and involving former members of the armed forces—has increased, as has sexual and gender-based violence (Razafindrazaka, 2014). In contrast, the oil boom that brought jobs to the remote creek community of Oloibiri in the Niger Delta, Nigeria, has long passed. For 20 years following the discovery of oil in 1956, the area prospered. But oil production ended in the mid-1970s (Akpan, 2005, p. 139), and the population has since dropped to 10 per cent of its boom levels. In the shell of the former town, youth violence is routine (Watts and Ibaba, 2011, pp. 1–3).

This chapter focuses on violence related to one specific form of urbanization prevalent in the global South—*frontier urbanization*—here defined as the rapid growth of previously marginalized, underdeveloped regions and hinterlands into urban areas that service resource extraction, particularly of oil, gas, and minerals. Little is known about the spatial and institutional dynamics and competing interests of the extractive sector, state and non-state security providers, and populations in such settings. Is there a link between frontier urbanization and specific types of violence? What are the security effects when the extractive boom recedes?

The main findings of this chapter are as follows:

- The extraction of oil, gas, and strategic or precious minerals is typically accompanied by significant urbanization of the adjoining area, with often-dramatic socio-economic repercussions.
- The effort to control and secure resources that are being extracted can attract a variety of armed actors, including security forces and predatory groups, not only to the mining sites themselves, but also to the rapidly expanding urban service areas.
- The sudden urbanization around extraction sites is rarely accompanied by sufficient public service provision, including security. As a result, these services are increasingly outsourced to non-state providers, such as private security companies or protection squads.

- Frontier urbanization can lead to conflict over the control of the land and its extractable resources; insecurity and social unrest related to precarious socio-economic and environmental conditions; and tensions, sometimes expressed violently, around post-extraction decline or state-led urban clean-up and rejuvenation plans.
- While the intersection of extractive industries and frontier urbanization is associated with various types of violence, key information, including rates of violence and small arms proliferation, remains elusive.

Following a brief introduction that conceptualizes frontier urbanization and identifies what is known about the links between urbanization and extraction-related armed violence, the main part of this chapter is divided into three sections that describe interrelated sources of violence and insecurity in such areas. The first discusses armed actors' protective and predatory responses to resource extraction. The second highlights the political, societal, and ecological challenges posed by unserved and impoverished (and often informal) urban areas that can arise in response to extraction activities. This section also touches on urban protest and social unrest in the face of perceived injustice and environmental damage related to resource extraction. The third discusses the extent to which frontier areas can cope with demise and decline. A final section reflects on the scenarios presented and offers possible directions for further research.

URBAN VIOLENCE ON THE RESOURCE EXTRACTION FRONTIER

This chapter draws on three bodies of literature to grasp the dynamics of urban violence on the resource extraction frontier. The first relates the political economy of resource extraction, particularly oil, gas, and minerals, to global urbanization trends. This is a fledgling field that is just beginning to examine the ways in which the onset of extraction activities—whether large-scale industrial endeavours led by multinational corporations (MNCs) or artisanal or small-scale mining—generates urbanization of the adjoining area. The second relates the political economy of resource extraction to armed violence. This is a more established field that explores the ways in which the presence of resources can fuel the onset, conduct, and longevity of insurgency and conflict. The third, more novel perspective seeks to describe the forms and patterns of violence in urban areas on the resource extraction frontier, a field of research that remains largely unexplored.

Urbanization around extractive sites

Discussions of urbanization often focus on the increasing number of megacities, each boasting tens of millions of inhabitants, many of whom are living in poverty and squalor, and working in informal (and at times exploitative and unsafe) labour conditions. Yet a significant portion of the world's urbanization occurs on a much smaller scale, involving the penetration of rural areas by 'urban-like forms of production, infrastructure, and administration', and offering 'new possibilities for dispersed economic growth and new patterns of spatial and social mobility' (Hackenberg, 1980, p. 391). This chapter adopts a broad definition of urban settlements as:

populations of 10,000 people or above which are ethnically diverse, engaged in varied specialised economic activities rather than depending primarily on agriculture, and stratified by class in terms of different levels of income earning, asset holding and political power (Bryceson and MacKinnon, 2012, p. 517).

Resource extraction activities are an important component of urbanization trends, and the topic is beginning to receive more attention (Büscher, Cuvelier, and Mushobekwa, 2014; Bryceson and MacKinnon, 2013).¹ Artisanal and

small-scale mining (particularly of gold, diamonds, and precious stones) is common across many parts of South America, Africa, and Asia. Much of this mining is informal—up to 90 per cent of all gold production and export in the Democratic Republic of the Congo (DRC), according to Geenen (2012, p. 322); it frequently involves large numbers of people in each mining area, which is reflected in population movements and local settlement patterns. At the same time, relatively steady world demand and high world prices for hydrocarbon products (petroleum and natural gas) have led many governments, in collaboration with MNCs, to dig and drill in places that had not previously been considered economically viable. These activities draw a significant influx of capital and labour to the extraction site, increasing the size of existing towns or helping to establish new towns altogether.

The term ‘frontier urbanization’ (Browder and Godfrey, 1990) is useful for making sense of these dynamics. Echoing the experiences of the American Frontier in the 17th, 18th, and 19th centuries (Turner, [1893] 1961; Webb, 1964), ‘frontier’ captures the boom-and-bust nature of the settlements that spring up around extractive sites. The frontier is a setting where groups with varying cultural and economic backgrounds—as well as differing ecological convictions—begin to interact with one another by means of cooperation, coercion, and conflict (Osterhammel, 2009, pp. 471, 513–14; Richards, 2003). The notion of the frontier implies a judgement about centrality and marginality (Woodworth, 2012, p. 76; Pullan, 2011), in that a certain set of socio-economic interests and technologies are introduced to empty hinterlands with the supposed aim of accessing and extracting available resources. In this context, the arrival of pioneer ‘intruders’ can produce new forms of social order and new institutions (Kopytoff, 1989), the culmination of which is



A soldier from the Forces Populaires du Congo watches artisanal miners at work, DRC, November 2013. © James Oatway/Panos Pictures

the establishment of frontier towns by ‘urban pioneers’ (Billington, 1967, p. 7). The result is a web of urban areas ranging from those in the immediate vicinity of the extractive sites, to new local and ultimately regional urban service centres.

By using the terminology of ‘frontier urbanization’, this chapter tries to capture the volatility of urban growth and decline in areas affected by extraction activities. Such urbanization is not a uniform phenomenon and is dependent on the type of resource extracted as well as the way this extraction proceeds. The labour-intensive artisanal mining of alluvial diamond fields, for instance, may produce a form of population mobility and urban growth quite different from that generated by a capital-intensive MNC-led exploitation of a coalmine or an oilfield. Often, artisanal and more large-scale forms of extraction activities occur simultaneously. As one observer notes with reference to Sierra Leone’s diamond-rich Kono district:

both formal company mining and informal indigenous extraction have stimulated temporary and permanent migration, the emergence of new towns and the expansion of existing ones, and a strong element of seasonality with populations moving between mining and farming activities over the course of the year (Maconachie, 2012, p. 707).

‘Frontier urbanization’ captures the volatility of urban growth and decline in areas affected by extraction activities.

There is no clear correlation between capital generated by extractive activities and the growth or decline of related settlements. Oil and mining wealth is seldom invested on site, but rather in other parts of the country or abroad, indirectly contributing to urban growth in other locations. This is especially true of smaller-scale and possibly illegal mining activities, where the incentive to take the money and run is much higher (Gough and Yankson, 2012, p. 665). Yet even larger transnational extraction companies, which generally have an incentive to invest in mining towns (albeit selectively), may spark urban growth elsewhere—either in the regional metropolitan area or in the national capital. A good example of the former is Port Harcourt in the Niger Delta. An example of the latter is Harare, which became the headquarters for both national and foreign mining companies operating in Zimbabwe. As a result, many employment opportunities there are related to mining in some way, even though the actual extraction activities occur in other parts of the country (Kamete, 2012).

Natural resources and armed conflict

Many environmental and development analysts argue that an over-reliance on the extractive sector is detrimental to a country’s economic growth rates and societal stability, and that the sudden extractive revenues tend to slow down or even reverse democratization processes, consolidating authoritarian, unaccountable, and often corrupt regimes (Collier, 2010). Moreover, resource wealth is said to correlate with the likelihood and longevity of armed conflict (Ross, 2004), in part because armed groups are likely to pursue economic opportunities (due to greed) rather than political or ideological grievances alone (Berdal and Malone, 2000; Weinstein, 2007).

But the evidence base in support of these claims is weak, tends to be based on national-level data, ignores the local level, and ‘hardly pays any attention to the position and role of populations living in those conflict areas’ (Cuvelier, Vlassenroot, and Olin, 2014, pp. 344, 348). Researchers insist that micro-level case studies are needed to complement broader understandings of conflict dynamics to identify local and regional patterns, and to ‘trace more precisely the channels through which rent seeking and relative deprivation associated with extractive activities translate into armed violence’ (Carbonnier and Wagner, 2015, p. 130). In addition to a lack of local-level victimization data, empirical information on the use of small arms and light weapons in such settings is quite patchy.

In the absence of good data, Korf’s work on the micro-dynamics of conflict is a useful starting point: it focuses on the entanglement of both greed and grievance and tries to capture ‘the intricate links of violence with contentious

politics, coercion, consent, avoidance, resistance and vulnerability' (Korf, 2011, p. 748). Similarly, this chapter seeks to uncover the complex relationships between urbanization and violence on the resource extraction frontier. It begins with the observation that, in general, the sudden influx of capital and labour into a region creates urban areas marked by severe social inequalities and spatial segregation, as well as potential conflict over control of the extracted resources themselves. State and municipal authorities thus find themselves caught in the tensions between private property and public control; between the rights of local populations to their land and its resources; and between the interests of the domestic and foreign market players as well as armed groups seeking to gain from the extraction activity.

Urban violence on the extraction frontier

There is a growing body of literature dealing with the ways in which urban life may produce particular forms of interpersonal and collective violence (Rodgers, 2010; Moncada, 2013; Jütersonke, Muggah, and Krause, 2007). Analysts have tended to stress the rate of urbanization, rather than urbanism itself, as a risk factor for violence in both the public and private spheres. They find that the likelihood of violence tends to increase when urban population growth vastly outpaces the speed at which state and municipal institutions can provide basic community services, particularly law and order (Brennan-Galvin, 2002, pp. 133–34; Fox and Beall, 2012, p. 974).

When the capacities of public authorities are over-stretched, people increasingly rely on informal and non-state forms of service provision, ranging from commercial forms offered by the private sector and unpaid community service, to more illicit, black-market services (Kartas and Jütersonke, 2012). In the security sphere, such non-state service provision ranges from private military and security companies to self-defence and vigilante units, some of which may have ties with organized crime (Koonings and Kruijt, 2004). Violence in rapidly urbanizing spaces is thus conceived as both a dependent and independent variable: a specific institutional setting generates particular forms of violence, which in turn create new structural conditions that themselves reinforce the dynamics of violence.

The following sections draw together what is known about violence and urbanization under the specific conditions generated by resource extraction. Such extraction is frequently accompanied by an influx of people and thus an urbanization of adjoining areas; yet once the extractive boom has passed, de-urbanization may occur. Extraction also presents the potential to fuel armed conflict and social unrest. This raises the question: what is known about the micro-dynamics of violence in urban areas related to such resource extraction?

The chapter does not suggest that frontier urbanization is by definition harmful to collective and individual socio-economic well-being. In fact, the extractive industries can be a catalyst for stability, economic growth, job creation, and knowledge transfer—including the promotion of less environmentally damaging extraction technologies. Nevertheless, the boom-and-bust nature of these settlements on the resource extraction frontier has generated significant societal conflict and various forms of armed violence in numerous cases, as discussed in the following sections.

Because a robust evidence base on this issue does not yet exist, this chapter offers a provisional typology of violence based on insight obtained from fieldwork and extensive desk research. The cases studied in this chapter suggest that a variety of armed actors are drawn not only to the mining sites themselves, but also to the rapidly expanding service areas with the aim of controlling the extracted resources. These areas appear to generate a variety of policing frameworks involving transnational companies, global and local private security companies (PSCs), and different state security forces; they also attract militias, protection squads, and sometimes-violent protest groups (Johnston, 1999; Kempa et al., 1999). Ultimately, the outsourcing of security to non-state providers turns PSCs or protection squads into *de facto* urban police—pointing to the need for a greater focus on frontier urbanization when it comes to regulatory guidelines for MNCs in the extractive sector (see Box 2.1).

Frontier urbanization is not by definition harmful to collective and individual socio-economic well-being.

Box 2.1 MNC governance and frontier urbanization

International initiatives such as the Extractive Industry Transparency Initiative or the Publish What You Pay campaign seek to promote openness and accountability in the extractive sector (EITI, n.d.; PWYP, n.d.). The first is a coalition of governments, extraction companies, and civil society groups; the second is a global network of more than 800 civil society organizations. Understandably, their work has been focused on generating a more equitable and sustainable regime of resource wealth management; meanwhile, spatial dynamics and urbanization trends that accompany the extraction of oil, gas, and minerals have received only limited attention in the formulation of such governance guidelines (Obeng-Odoom, 2014, p. 23).

More generally, the same is true of the UN Guiding Principles on Business and Human Rights, produced by the team of the UN Special Representative of the Secretary-General, John Ruggie, in 2011 (UN, 2011). Corporate social responsibility (CSR) activities pursued by the extractive industry focus predominantly on workers' rights and conditions within the extractive sites themselves. Different development agencies have thus called for the establishment of certification processes for workers' rights in artisanal and small-scale mining, yet these often neglect significant administrative hurdles or precarious security situations that may prevent local workers from forming effective coalitions for the promotion of their rights as miners (Hütz-Adams and Müller, 2012, p. 5). Such advocacy is part of an urban politics in mining regions that goes well beyond the notion of the 'local community' commonly referenced in CSR standards and guidelines.

Security and safety concerns are a particularly crucial component of extractive industry regulation, and the Voluntary Principles on Security and Human Rights, established in 2000 as specific human rights guidelines for extractive sector companies, are a promising initiative in this regard (VPSHR, 2000). The accountability of private security companies, which are frequently contracted by local and multinational mining firms, is a delicate issue, and the Government of Switzerland has recently championed an International Code of Conduct for Private Security Providers that seeks to establish an external and independent oversight mechanism for PSCs (FDFA, 2010). Yet the presence of private and other non-state security providers in urban areas dominated by the extractive industry continues to be an underexplored phenomenon, and there is a need for further comparative, local-level studies on the forms of collaborative policing generated by state, corporate, and community interests on the resource extraction frontier.

Three broad, interrelated types of urban violence on the extractive resource frontier can be delineated. The first involves security providers tasked with controlling the resources themselves, as well as armed actors trying to pry them away from their declared owners. The second arises from the political, societal, and ecological challenges facing the unserved and impoverished informal urban areas themselves. The third type occurs at the 'bust' end of urbanization, when violence can accompany post-extraction decline or when state authorities implement urban clean-up and rejuvenation plans. These three types are discussed in turn, building on insight gleaned from a number of cases.

PROTECTION AND PREDATION

In the face of high global prices for oil, gas, and minerals, the extraction of these resources is potentially lucrative for the business sector, the state, party-political elites seeking to finance their campaigns, and armed actors ranging from rebels to organized criminal groups. The practicalities of extracting, transporting, and selling what comes out of the earth depends to a large extent on the nature of the raw materials themselves, and the type of machinery and equipment required to extract and transport them. Security concerns, however, appear to be a fundamental aspect

of all extraction endeavours—fuelled by protective measures on the one hand, and the resort to violent, predatory behaviour on the other.

Historically, the extractive industries have always sought to protect their investment, and the influx of all sorts of security providers—and armed bandits—has long been one of the defining characteristics of many towns on the resource extraction frontier. Already in colonial times, mining companies, usually subsidiaries of colonial governments, sought to contain illegal mining activities by establishing their own vigilante militias. At that time, uniformed police forces were a rarity, expensive to set up and maintain, and generally confined to policing the 'European' neighbourhoods of central colonial cities (Jütersonke and Kartas, 2015). Companies such as the Sierra Leone Selection Trust,

Box 2.2 Out of control: armed groups and illegal mining in Segovia and Remedios

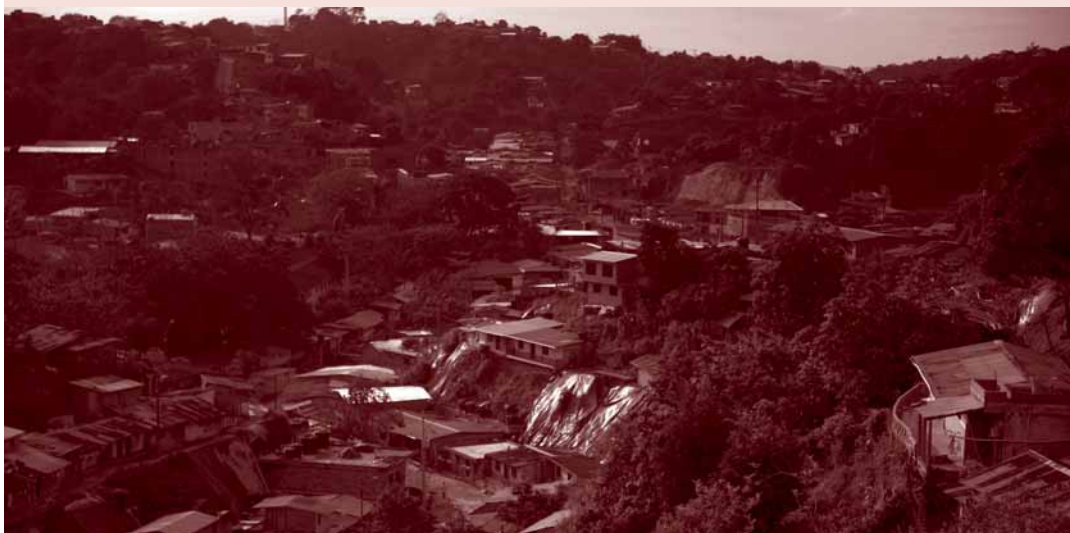
Segovia and Remedios are two municipalities in Colombia's mineral-rich north-western department of Antioquia. Founded in the mid-19th century as a consequence of British capital invested in the Frontino Gold Mines and Mineros de Antioquia mining companies, their history has been directly influenced by mineral extraction that began in the days of the Spanish colony, when Antioquia became one of the biggest gold and silver providers for the Kingdom of Granada (Correa Restrepo, 2011). Over the past decades, and in the context of Colombia's ongoing conflict, the two towns have suffered the presence of various guerrilla, paramilitary, and armed criminal groups—all of which swiftly recognized that gold was easier to produce and more profitable to sell than cocaine (Hoyos, 2012). Since the 1970s, rural insecurity as a result of the conflict, and the mining boom itself, have resulted in the rapid expansion of both urban areas through voluntary and forced displacement (Trujillo, 2014).

In 1985, the Fuerzas Armadas Revolucionarias de Colombia (Revolutionary Armed Forces of Colombia, FARC) began to participate in local and regional politics through the Unión Patriótica (UP), founded by the Communist Party. The UP aimed to represent the mining labour unions in the country, including those in Segovia and Remedios. As early as 1983, nascent paramilitary groups—Muerte a Secuestradores (Death to Kidnappers) and Muerte a Revolucionarios del Nordeste (Death to Revolutionaries of the North-east)—engaged in targeted assassinations of political leaders who were connected to the mining unions and the UP. By 1997, the number of victims had exceeded 300, more than one-quarter of whom had lost their lives in a series of massacres that were only recently documented (GMH, 2011).

Facing significant financial difficulties, the Frontino Gold Mines and Mineros de Antioquia mining companies were both

sold to Gran Colombia Gold in 2010, a Canadian company, registered in Panama, operating in Colombia, and obtaining capital from Venezuelan and Australian stakeholders. The aim of the new owners was to increase productivity of the mines and reduce costs. In Segovia, the results were mass lay-offs and the introduction of new technical procedures that boosted the use of water (to 4.4 million litres of water per day in 2011) and the amount of solid waste produced (Trujillo, 2012; 2014). The social and environmental impacts continue to be a significant source of tension and resentment in both towns.

The arrival of Gran Colombia Gold and large-scale foreign investment has also sealed the fate of artisanal miners, whose operations have either been declared illegal, or who were co-opted by armed groups. Both regular and irregular armed forces now seek to prevent their access to the mines—either by claiming that they lack the relevant land titles or government paperwork, or by forcing the miners to pay for mine access (Trujillo, 2014). Moreover, artisanal miners are now caught between the competing interests of two regrouped paramilitary factions, the Rastrojos and the Urabeños, and two guerrilla groups, the FARC and the Ejército de Liberación Nacional (National Liberation Army), while the region has become both a transit hub and a final destination for a significant number of the three million illegal firearms circulating in the country (Aguirre, 2011). Between 2011 and 2013, targeted assassinations connected with the mining business reached a high of eight murders per day and led to a wave of population displacement (Verdad Abierta, 2013; SAT, 2012, p. 13). With 100 illegal digging machines now in operation, and in the face of severely elevated levels of mercury and cyanide in the water supplies of both towns, the local government has acknowledged that the situation is 'out of control' (*El Espectador*, 2013).



A view of Segovia municipality, May 2014. © Raul Arboleda/AFP Photo

established in 1934, deployed its own security forces in the Kono district, supplemented with the arrival of the Sierra Leone Police Force in the early 1950s. There, they faced protection squads of well-organized gangs of illegal diamond diggers, who also fought violent battles among themselves (Machonachie, 2012, pp. 710–11).

Similar violent contestation continues today in places such as the Colombian mining towns of Segovia and Remedios, which have already suffered the loss of hundreds of lives, mainly through firearm homicide (see Box 2.2). The extractive activity there has also provoked severe environmental consequences, with cyanide and mercury waste, both in the rivers as well as in the air, reaching levels much higher than what the World Health Organization deems tolerable thresholds (*Semana*, 2013).

Extractive industry activities are increasingly marked by the presence of private, corporate security.

While Colombia is a special case in some ways because of its long history of conflict, extractive industry activities in less extreme settings are increasingly marked by the presence of private, corporate security. The result is a variety of collaborative partnerships between public and private, formal and informal types of security provision, in a complex network of actors and practices that Abrahamsen and Williams (2010) call ‘security assemblages’. By complementing the often-insufficient capacities of state security forces, private security companies play a rather ambivalent role. On the one hand, they enhance the coercive power of the state by providing material and technical capacities. On the other, when PSCs adhere to international guiding principles, they may reduce the likelihood of violence (Abrahamsen and Williams, 2010, pp. 147–48). More systematic research is needed to establish whether PSC presence actually mitigates or exacerbates levels of violence related to the extractive sector.

Spatially, large-scale extraction with a PSC presence can produce enclaves in which entire urban areas are sealed off for security reasons, effectively turning boom towns into huge gated communities. A case in point is the diamond town of Orapa in Botswana, owned and run by De Beers (Gwebu, 2012). Having emerged to serve one of the largest open-pit diamond mines in the world, this town soon expanded to house a population approaching 10,000. Completely fenced in, the town allows access only to residents with permit cards, via one of two gates. Yet such arrangements can also cater to the interests of PSCs that oversell the security risks to retain their lucrative business and prolong their presence, as has occurred in eastern DRC (Schouten, 2013, p. 11).

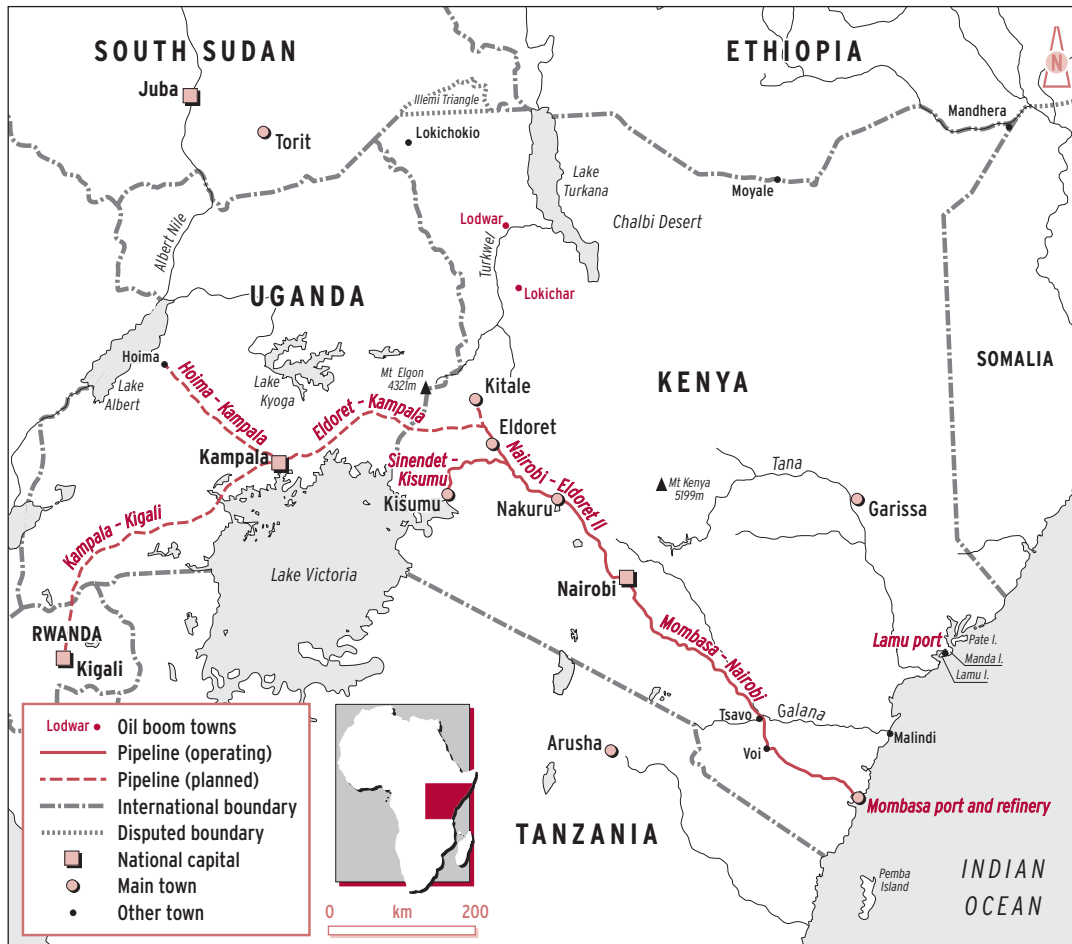
In contrast to these large-scale corporate security methods, protective measures often come in the form of bodyguard service for at-risk individuals. The town of Ilakaka, the hub of Madagascar’s sapphire region, provides a good example. When the extent of the available sapphire wealth became known in the late 1990s, Ilakaka was still a sleepy village of a few hundred residents, a pit stop on the long and arduous Route Nationale 7 from the capital Antananarivo to the port city of Tulear. Since then, an estimated 50,000 people have flocked to the town to participate in the sapphire rush. Fieldwork suggests that armed violence has become routine, involving a range of weapons, from industrially manufactured pistols and assault rifles (predominantly AK-pattern rifles) to locally produced craft small arms. Wealthy foreign investors and traders, predominantly from South and South-east Asia, are frequently the targets of attacks, and bodyguard protection for these individuals has become financially rewarding for PSCs across the island (Razafindrazaka, 2014).

The lines between private and public security provision are not always clear, limiting the control large-scale extraction companies exert over their security operations, and potentially slowing efforts to establish liability for the misuse of force (Umlas, 2011, p. 135). In Ilakaka, for example, members of the Malagasy military, gendarmerie, and police offer their services as bodyguards to wealthy individuals in exchange for housing, board, and around MGA 150,000 (USD 60) per month.

In Turkana county, where the Kenyan government has signed an agreement with Tullow Oil for large-scale oil extraction, the main security provider, employed directly by the oil company, is the Kenya Police Reserve (KPR). Armed by the state, the KPR is an auxiliary force detached from the main police and made up of volunteers operating in their own localities (Mkutu and Wandera, 2013, p. 11). The KPR, however, has a 'reputation as an ill-disciplined and troublesome force, with the media reporting regular cases of firearms misuse, banditry, renting of state-issued weapons, and livestock raiding' (pp. 19–20). Recent fieldwork observations in Turkana suggest a gradual move towards a more community-based approach to security provision.

Turkana county is an example of what happens when frontier urbanization besets a remote rural area even before extraction has begun. Oil was only discovered there in 2012, and Tullow has announced that extraction will start by 2017 (Mutegi, 2014). Since oil finds need to be exported to generate a return to the country, Kenya relaunched the USD 25.5 billion Lamu Port–South Sudan–Ethiopia Transport project in 2012; this major initiative, originally conceived in the mid-1970s, seeks to connect East Africa via a system of highways, railway lines, airports, and oil pipelines (see Map 2.1).

Map 2.1 Oil development and frontier urbanization in East Africa



A striking side effect of these activities is the rapid urbanization of the area. South Lokichar, where oil was discovered, has been converted from a remote, dusty community into a buzzing oil town, with new bars and guesthouses. Turkana's regional capital, Lodwar, is being fitted with a new road network and its first five-star hotel (Vasquez, 2014b). The KPR forces are also being 'urbanized' in the process, transforming from unpaid volunteers in remote rural areas into a significant, yet undertrained, possibly ill-disciplined, and largely unaccountable urban security provider (Mkutu and Wandera, 2013, p. 31).

POVERTY AND PROTEST

Mining boom towns are among the poorest urban areas on earth.

In many places, digging and pumping proceed without violent disputes over control of the resources, or major security operations. Yet localized conflicts may arise over land disputes, indigenous rights, environmental degradation, and socio-economic inequalities, often fuelled by 'old, unresolved grievances and a history of marginalization of the affected groups' (Vasquez, 2014a, p. 6). Even the remote and sparsely populated Turkana region has recently experienced public protests over a perceived lack of job opportunities in the oil sector for local inhabitants (Lutta, 2013). As noted above, however, the relationship between such local conflicts and frontier urbanization remains understudied. One recent survey suggests that in some parts of Latin America, the oil-induced urbanization of indigenous populations and ethnic minorities has reduced the likelihood of armed rebellion (Wei, 2014), but a more finely grained analysis of the urban micro-dynamics of violence related to resource extraction is needed.

State institutions, particularly at the local level, sometimes lack either the capacity or the political will to react to the rapid growth of mining boom towns. As a result, these towns are among the poorest urban areas on earth, featuring high unemployment, a lack of social fabric, and dire living conditions because of air, water, and soil pollution. These processes of social and psychological dislocation have been termed the 'Gillette syndrome', following the experiences of a mining town of the same name in the US state of Wyoming (Kohrs, 1974). Preliminary evidence suggests that it often manifests itself in 'high rates of crime, drug and alcohol abuse, material break down, mental issues and a reduced sense of community' (Bryceson and MacKinnon, 2012, p. 515), as well as in an exacerbation of gender-based violence (Cane, Terbish, and Bymbasuren, 2014). Further research is required to understand the specific risk factors and how they interact.

Resource-rich sub-Saharan Africa provides some striking examples of the characteristics described by the Gillette syndrome. The second- and third-largest cities of the DRC, Lubumbashi and Mbuji-Mayi, the provincial capitals of Katanga and Kasai Oriental, are expected to grow by roughly 50 per cent between 2010 and 2020 (UN-Habitat, 2010, p. 200). By 2025, the populations of both cities are expected to reach about 2.7 million (UN-Habitat, 2013, p. 157). The two cities, founded by the Belgian colonial authorities in 1910 and 1918, are essentially the product of mining activities. Their original urban plans involved three distinct areas: an indigenous town (*la cité indigène*), the European colonial town, and separate labour camps directly administered by the mining authorities. Despite having been exposed to very different mining and urbanization dynamics, both cities feature vast informal settlements, extreme social and economic inequalities, environmental degradation, and the emergence of a variety of 'self-help' mechanisms and service provision in 'self-built' neighbourhoods beyond any formal control of the public authorities (Perazzone, 2014). Fieldwork conducted for this chapter suggests that much of this urbanization and related insecurity is linked to mining activities in the adjoining areas, although a more accurate appraisal of these complex dynamics is still needed—not least because rural–urban migration in the region is also related to the activities of rebel groups, which are themselves intricately linked to resource extraction.

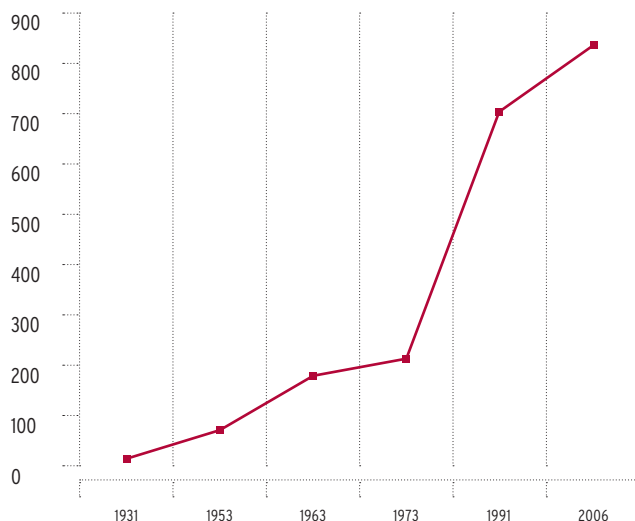


Waterfront settlements in Port Harcourt, Nigeria, July 2010. © Akintunde Akinleye/Reuters

Nigeria's Port Harcourt is roughly the same size as Lubumbashi and Mbuji-Mayi, having grown from a small operational base for the multinational oil industry in the 1950s into a sprawling city of more than 800,000 inhabitants in 2006 (see Figure 2.1). The city has all but cast off the British 'garden city concept'—the original urban design that surrounded a central business district with residential areas and suburbs, as well as ample open spaces and parks (UN-Habitat, 2009, pp. 8–9). As the city grew, it began to absorb many surrounding rural communities in an unplanned manner. What makes Port Harcourt a special case is that much of the urban growth has taken the form of squatter settlements at the waterfronts of the adjoining rivers, achieved

Figure 2.1 **Population growth of Port Harcourt, Nigeria, 1931–2006**

POPULATION (THOUSANDS)



Source: UN-Habitat (2009, p. 9)

by progressively adding stabilizing materials into the swamps. None of this was foreseen by the city's 1975 urban plan (Obinna, Owei, and Mark, 2010, p. 224; UN-Habitat, 2009, p. vi). Over subsequent decades, and coupled with increasingly violent armed confrontation between the Nigerian army and militias in the Niger Delta, Port Harcourt became one of the most volatile, impoverished, and violent cities in the region (AOAV and NWGAV, 2013; Sheerin, 2007).

**In Moramanga,
nearly 65 per cent
of the town's
residents live in
precarious informal
housing.**

Many of these dynamics are seen on a smaller scale in the town of Moramanga, Madagascar. A small urban area on the road between the capital Antananarivo and the main port city of Toamasina, Moramanga was one of the main areas of nationalist insurrection in 1947, as well as the scene of bloody repression by French colonial forces (Razafindrazaka, 2014). Sixty years later, in 2008, the government agreed to the establishment of a new nickel and cobalt mine on its outskirts. The Ambatovy Joint Venture, a partnership headed by Sherritt International of Canada and involving other Canadian, Japanese, and Korean investors, has an annual design capacity of 60,000 tonnes of nickel and 5,600 tonnes of cobalt (Ambatovy, 2012). Soon, Moramanga witnessed the influx of foreign workers—predominantly miners from the Philippines (Ambatovy, 2012, p. 29)—as well as private security personnel, Malagasy labourers from other parts of the country hoping for a share of the supposed riches, and the displacement of rural residents when the open-pit mine encroached on their villages. According to interviews conducted with the mayor's office, Moramanga's population jumped from some 37,000 in 2006 to at least 50,000 in 2014 (Razafindrazaka, 2014)—although accurate figures are unknown, even to the authorities.

In the absence of an urban plan, nearly 65 per cent of the town's residents live in precarious informal housing without building permits or access to basic services, such as clean water, electricity, or sanitation (UN-Habitat, 2012). Small arms, ranging from old assault rifles from military and gendarmerie stockpiles to craft production, are reportedly in wide circulation (Jütersonke and Kartas, 2011); moreover, the number of armed break-ins and acts of robbery is on the rise, particularly in the richer neighbourhoods of the mining management (Razafindrazaka, 2014). Fieldwork conducted for this chapter revealed that armed robbers are increasingly organized and sometimes include former soldiers—a phenomenon that may be a continuation of the events of 2002, when both presidential candidates supplied their supporters with military weapons in a six-month stalemate that placed Madagascar on the brink of civil war (Jütersonke and Kartas, 2011). The situation in Moramanga, which has also seen rising levels of prostitution, notably involving children, as well as child pornography and gang rape (Radasimalala, 2011; UN-Habitat, 2012, p. 11), has deteriorated to the point where the mayor's office and the police services admit an inability to provide public order. The gendarmerie is reportedly considering adding Moramanga to its list of 'red zones'—large swaths of the island where they are unable to provide effective security (Razafindrazaka, 2014). Residents have created a protest group to denounce the way in which Sherritt's presence fails to benefit the town and people of Moramanga (Rakotomalala, 2013).

The scene in Moramanga is comparable to that in Cajamarca, northern Peru. The city is the local service hub of Yanacocha, the world's second largest open-pit gold mine (AIDA, 2011). This gigantic mine has engulfed more than 26,000 hectares of land, displacing hundreds of rural families in the process. Most resettled in Cajamarca's poor urban periphery, in the hopes of securing one of the thousands of jobs the mining company had promised to generate (Trujillo, 2014). Yet many of these jobs are temporary or require qualifications that these workers do not possess. As a result, socio-economic cleavages and societal tensions in Cajamarca, which has more than doubled in size since the early 1990s, have been exacerbated (Bury, 2007; 2008; Trujillo, 2014).

Pollution—such as the spill of 151 kg of mercury in 2000 (Arana-Zegarra, 2009, p. 113)—complicates matters, as did plans to extend exploration to the sacred mountain of Cerro Quilish in 2004, over which 50,000 demonstrators protested (Lambrigger, 2007). After weeks of violent clashes with police, the plans were eventually dropped (Bebbington

Box 2.3 Trouble in paradise

Most of the nickel currently being extracted on the planet comes from nickel laterite ore deposits found in the earth's mantle of ultramafic rock. Only 1 per cent of the earth's land surface is made up of such rock, but on the main island of the New Caledonian archipelago in the Western Pacific, it covers almost a third of the surface, or around 5,600 km² (Lison, 2013). As a result, nickel (along with cobalt) is the territory's primary export commodity, and the mining industry is the main economic driver and its principal employer.

Since 2006, the chief business actor has been the Brazilian mining giant Vale, which bought the Goro-Nickel mine company operating in the south of the island (previously owned by Inco), close to the capital, Nouméa, and invested USD 6 billion into a new metallurgical plant that began its operations in 2009 (Levacher, 2012; Lefort and Burton, 2014). The mining and metallurgy project has, from the beginning, raised tensions with the indigenous Kanak population, which not only fears the destruction of its traditional livelihoods and natural habitat (much of which is under UNESCO protection), but resents the lack of economic opportunities offered to the local population by a mining sector that relies increasingly on foreign labour. Some 15,000 workers hail from the Philippines, according to Kanak NGOs (Graff, 2014), although some media reports cite lower figures (Les Nouvelles Calédoniennes, 2002). The result has been an increasingly disgruntled youth population in the ever-expanding metropolitan area of Greater Nouméa (Rivoilan and Broustet, 2011).

In 2006, local Kanak NGOs and traditional leaders blocked the entrance to the construction site of the metallurgical plant (Graff, 2014). The gendarmerie reacted by shooting live ammunition at demonstrators and dropping tear gas on them from helicopters. In 2005, the gendarmerie even mobilized several dozen combat divers to disperse a group of Kanak youths who had staged a sit-in of the mining harbour. The authorities' increasingly militarized response to protests thus became the subject of debate during a session of the UN's Working Group on Indigenous Populations (Graff, 2014). According to public statements made during that session, the gendarmerie had deployed a permanent contingent of 100 officers to protect the mining zone, and the MNC had begun to recruit PSCs employing US mercenaries.

The standoff has continued between the French authorities and Kanak youths from the tribes around Nouméa's expanding peri-urban areas. Successive mining-related accidents have exacerbated the tension: between 1,000 and 5,000 litres of sulphuric acid were spilled into adjoining rivers in 2009 (Les Nouvelles Calédoniennes, 2009). On 7 May 2014, a further spill from the Goro-Nickel plant caused more than 100,000 litres of hydrochloric acid to enter the creek of the northern bay of the UNESCO-protected lagoon (Souche, 2014). A new wave of protests and violence following this latest environmental disaster forced the plant to close for a few weeks. According to a variety of often-conflicting media reports, the plant suffered mining property damage to the tune of USD 20–30 million, including the destruction of one-third of the company's truck fleet (Lefort and Burton, 2014).



Residents of Mont-Dore protest following an acid spill from the Goro-Nickel plant, Nouméa, New Caledonia, May 2014. © Fred Payet/AFP Photo

et al., 2008; AIDA, 2011), although the idea has recently been revived (Emery, 2014). Protests and violent responses, which again erupted over the construction of the Rio Azufre dam in 2006, have become almost routine in Cajamarca, with demonstrators facing police crackdowns and self-defence forces (*rondas urbanas* and *rondas campesinas*) that had originally been established in the 1970s to help resist terrorist attacks from the Sendero Luminoso (Shining Path) and other militia groups. In collaboration with mining interests, these forces have recently turned on rural migrants and environmental activists. In 2013, the *rondas* also began taking action against vandalism and prostitution in the ever-expanding informal neighbourhoods on the outskirts of the city (Trujillo, 2014).

Being neither unique to Cajamarca nor the Andean region, social unrest between demonstrators and security providers recently occurred in far-flung New Caledonia in the Pacific Islands (see Box 2.3). Protests tend to revolve around working conditions, disputes over the land and its resources with property owners or indigenous groups, and environmental issues related to pollution and the destruction of natural habitat. Sometimes the demonstrations (and violent responses) happen at the mining sites themselves, such as occurred in South Africa's Marikana massacre, or the violent removal of protest camps at the Letpadaung copper mine in Myanmar, both in 2012 (BBC News, 2012; HRW, 2012). But often the protests are organized in the urban area of the service hub. This was the case in the city of Soma, Turkey, following a mining accident that claimed the lives of at least 282 people in May 2014; following the incident, protest-related violence also spread to the capital, Ankara (BBC News, 2014). Similar scenes have taken place in parts of Europe and North America over fracking (Jackson, 2014; Lukacs, 2013).

**Extractive towns
may experience a
mass exodus of
residents once the
mining boom is over.**

THE BUST AFTER THE BOOM

What happens to the new urban environment when digging and pumping for non-renewable resources slows down or ceases altogether? Ferguson (1999) describes a paradigmatic case of de-urbanization in Zambia's Copperbelt in the 1980s. He emphasizes the complex nature of rural-urban mobility and settlement patterns, highlighting that an incoming wave of migrant labour does not necessarily lead to permanent urbanization. Instead, workers coming to the mining towns continue to maintain complicated (and at times conflicted) relationships with the rural communities from which they come, and many, if not most, return to their families upon retirement or with the onset of unemployment. In times of decline, economic despair can turn into collective anger and violence, as was the case in the Copperbelt food riots in December 1986, which left six people dead (AP, 1986; Ferguson, 1999, p. 264; Mukela, 1988). Frontier urbanization is far from being a linear path to prosperity, instead ebbing and flowing with changing fortunes in the industry.²

In light of significant labour mobility, extractive towns in the global South may experience the mass exodus of residents once the mining boom is over. An example is Oloibiri, a small and remote creek community in the Niger Delta, Nigeria. Oil was discovered there in 1956, and soon a camp with prefabricated housing, electricity, water, and a new road were built for incoming workers. Over the next 20 years, Shell-BP extracted more than 20 million barrels of crude oil from the field, which was connected with Nigeria's first crude oil pipeline to Port Harcourt. In the 1960s, Oloibiri had a population of 10,000. Oil production ended in the mid-1970s, and today the town has barely 1,000 inhabitants and is characterized by youth violence, 'scorched earth, and capped wellheads' (Watts and Ibaba, 2011, pp. 1-3; Akpan, 2005, p. 139).

In Sierra Leone, by contrast, mining towns in diamond-rich Kono district received a new lease of life—but also renewed insecurity—with the end of the civil war in 2002. Earlier, rebel forces had taken control of the minefields and



An aerial view from 2001 of the diamond mines of Koidu, abandoned after rebel forces took control of the minefields and surrounding areas, Kono district, Sierra Leone. © Rob Huibers/Panos Pictures

surrounding areas, forcing many residents and mine workers to flee, predominantly to the capital, Freetown. After the war, some fighters flocked to the towns of Kono district, in what has been called the region's 'second diamond rush' (Maconachie, 2012, p. 716). Many had not gone through disarmament, demobilization, and reintegration, but immediately became artisanal miners. Cities such as Koidu have turned into some of the most ethnically diverse urban areas of the country, but they also suffer from severe impoverishment, interpersonal violence, and ethnic tensions between Kono locals and incoming youth populations (Maconachie, 2012, p. 716).

Dilapidated mining towns can also become havens for those fleeing political violence and state repression, as has recently been the case in Zimbabwe (Kamete, 2012). The first wave of newcomers arrived in these towns in response to the official 'fast-track' land resettlement programme of 2000, which allowed the government to acquire (with compensation) any land settled by colonists, including their mining operations (Matondi, 2012). According to Hartnack (2005, p. 173), the programme forcibly displaced more than one million farm labourers and their families—half of the entire farm population—with many ending up in the country's empty chromite mining towns that had been hit by falling mineral prices in the 1980s. The second wave of newcomers to these areas arrived in 2005, following the government's countrywide urban clean-up campaign, called 'Operation Murambatsvina' or 'Restore Order'. The campaign allegedly involved the army, police, and youth militia, which:

demolished illegal residential and business structures in informal settlements and low-income residential areas; [...] forcibly and violently evicted vagrants, street children and vendors operating in undesignated places; and [...] arrested, detained and/or forcibly relocated [residents] to 'transit camps' or 'holding centres' (Kamete, 2012, pp. 599–600).

Overall, the campaign displaced around 700,000 urban dwellers, many of whom had been the victims of the land resettlement programme five years earlier.

With Zimbabwe's mining towns turning into squatter-type informal settlements—urban centres in which municipal planning and public service provision are all but absent—the government then launched Operation Chikorokosa Chapera ('finished with illegal gold mining') in 2006. The operation officially targeted environmental degradation but was possibly motivated more by the state's perceived loss of income through uncontrolled and untaxed gold smuggling (Spiegel, 2009). In any event, over the space of only a few months more than 31,500 miners were arrested and many settlements were bulldozed (*Herald*, 2007; Spiegel, 2009, p. 42).

Some urban areas servicing extractive activities are too large to become true ghost towns. In such larger areas, state authorities tend to apply long-term approaches to persistent, informal, 'ungovernable' neighbourhoods (Obafemi and Odubo, 2013, p. 7). Their methods are often violent and violence-inducing. Over the past two decades, the government of Nigeria's Rivers state has attempted to implement a series of urban planning initiatives to tackle the volatility and persistent insecurity of Port Harcourt. Many of these efforts focused on the waterfront settlements that house more than 200,000 of the city's residents, many of whom came to the city in hopes of benefiting from the petroleum boom (Theis et al., 2009). The question of ownership of the land and its resources has long caused tensions in the city, often leading to violence between local (armed) groups, Niger Delta armed groups, and the government, or between residents of informal settlements and government forces (AOAV and NWGAV, 2013, pp. 73–74).

In 1988, the Rivers state government introduced a policy to 'improve [the] overall quality of life' in the squatter settlements through redevelopment projects in the Aggrey Road, Marine Base, and Ndoki waterfronts. But since new housing was only provided for less than 30 per cent of the residents, the initiative effectively only relocated the problem, rather than alleviating it (Obinna, Owei, and Mark, 2010, pp. 224–25). Nearly two decades later, in August 2007—following weeks of violent clashes that culminated in running street battles between the military and armed fighters on motorbikes, as well as the deployment of attack helicopters—the government announced plans to demolish slums in Port Harcourt's waterfront areas (IRIN, 2007). In 2009, finally, the authorities launched an 'urban regeneration programme' in the form of the Greater Port Harcourt Master Plan (Theis et al., 2009). As part of the programme, the Njemanze informal settlement, where an estimated 13,800–19,000 people lived, was demolished on 28 August 2009. The subsequent demolition of the Bundu waterfront community, on 12 October 2009, saw troops of the Joint Task Force and the police use firearms to disperse the crowds; at least 12 people were shot and seriously injured, and eye-witnesses saw six corpses being carried away (AI, 2010).

CONCLUSION

Historically, the accessibility of raw materials has been an important factor in determining human settlement patterns. Today, more than ever, extraction activities bring to urbanization trends complex dynamics of population movements and migratory patterns, as well as sheer numbers. Not all of this urbanization is necessarily detrimental to collective and individual socio-economic well-being. The extractive industries can be a catalyst for stability, economic growth, job creation, and knowledge transfer. Moreover, they can be instrumental in promoting less environmentally damaging extraction technologies. Increasingly, transnational mining corporations have been embracing the so-called 'Ghanaian open model' of having mine workers live in the adjoining urban area, rather than in camps or compounds. This approach potentially generates greater population stability and welfare, as miners have more of an incentive to move

to the urban area with their families. In the process, mining companies also invest significantly in the local infrastructure (Bryceson and MacKinnon, 2012, p. 529).

But there remain far too many instances where extractive activities—both industrial and artisanal—exacerbate poverty levels, destroy indigenous livelihoods and natural habitats (from deforestation to unfishable coastlines), and emit dangerous waste products into surrounding areas. This chapter's review of a number of cases suggests that the intersection of the extractive industries and frontier urbanization is associated with a range of types of violence. These include violent conflict over the control of the land and its extractable resources; insecurity and social unrest related to the precarious socio-economic and environmental conditions; and violent tensions around post-extraction decline or state-led urban clean-up and rejuvenation plans. But the frontier urbanization aspect of extraction, and its potential for generating interpersonal and collective armed violence, remain understudied. Further, while urban armed violence has been moving to the forefront of conflict and fragility analyses (Beall, Goodfellow, and Rodgers, 2013), little is known about the societal conditions under which such violence occurs.

Among the challenges to moving from a case study approach to a more comprehensive analysis is the lack of key data points, such as rates of violence and small arms proliferation in frontier urbanization compared to other urbanized areas. Research on the different facets of frontier urbanization and security provision across actors and communities is needed to better understand violence trends. Only then can promising policies and legal frameworks be developed to mitigate violence and improve security. ■

LIST OF ABBREVIATIONS

CSR	Corporate social responsibility
DRC	Democratic Republic of the Congo
ELN	Ejército de Liberación Nacional
FARC	Fuerzas Armadas Revolucionarias de Colombia
MGA	Malagasy ariary
MNC	Multinational corporation
PSC	Private security company
UP	Unión Patriótica

ENDNOTES

- 1 For instance, the Centre for Social Responsibility in Mining at the University of Queensland in Australia has studied in detail urbanization related to Mongolia's current coal mining boom; see, for example, McKenna (2013). The rapid expansion of this extractive activity has raised fears that the capital, Ulaanbaatar, may soon be short of water (ADB, 2014).
- 2 Echoing Ferguson, Walsh (2012) depicts a similar picture of urban decline in the Malagasy sapphire mining and trading town of Ambondromifehy.

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