

BUSINESS AS USUAL? ILLEGAL CHARCOAL AND TIMBER TRADE IN EASTERN DRC

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Cover: Charcoal market, Kingi, February 2021. Photo: Daan van Uhm

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ACRONYMS AND ABBREVIATIONS

ADF	Allied Democratic Forces
CNDP	Congrès National pour la Défense du Peuple (National Congress for the Defence
	of the People)
FARDC	Forces Armées de la République Démocratique du Congo (Armed Forces of the
	Democratic Republic of Congo)
FDLR	Forces Démocratiques de Libération du Rwanda (Democratic Forces for the
	Liberation of Rwanda)
ICCN	L'Institut Congolais pour la Conservation de la Nature (Congolese Institute for the
	Conservation of Nature)
M23	Mouvement du 23 Mars (March 23 Movement)
MONUSCO	Mission de l'Organisation des Nations Unies pour la Stabilisation en République
	Démocratique du Congo (United Nations Stabilization Mission in the Democratic
	Republic of Congo)
UNSC	United Nations Security Council

EXECUTIVE SUMMARY

he eastern region of the Democratic Republic of Congo (DRC) bordering Rwanda and Uganda is one of the richest in the world in terms of biodiversity and natural resources – from coltan and cobalt, to gold and tropical timber¹ – but one of the poorest in terms of wealth, safety and peace. Since the colonization of the Congo (as it was formerly known) in the 19th century, power struggles over natural resources have played a significant role in decades of oppression, war, widespread violence and displacement of people. Such conflict has negatively affected populations and the natural environment.² In particular, the rapid disappearance of the Congo rainforest is of serious concern.³ Deforestation rates in the DRC have almost doubled in the last decade,⁴ with the DRC reporting a loss of over 1 million hectares annually between 2010 and 2020, which is the third highest rate of forest denudation in the world (behind China and Brazil). Deforestation has irreversible effects on ecosystems, impacting human and non-human inhabitants as forests generate water supplies and biodiversity, and mitigate climate change.⁵

One source of deforestation is the illicit trade in timber and charcoal, which entails illegal harvesting of trees and production of charcoal outside concessions or inside nature reserves, as well as illegal trade involving tax avoidance or forged certificates.⁶ Given the high levels of violence and corruption in the region and the presence of armed groups, due diligence along the trade chain is often limited or even impossible. Consequently, much of the logging activity is presumed to be illegal.⁷

The illicit timber and charcoal trade are lucrative businesses in the region and have thus attracted a variety of actors, including violent armed groups, underpaid military personal, corrupt politicians, local traders and poor civilians. The placement of militarized park rangers inside the borders of national parks to defend the natural environment contributes to the complex web of power dynamics between legal and illegal actors involved in illegal trade. For instance, illegal entrepreneurs may initially engage in a criminal economy, but in so doing they enter a theatre of environmental conflict where they either add to or change the underlying dynamics of the conflict. Additionally, the distinction between legal and illegal activities has become so blurred as to be almost non-existent. Militia groups are socio-economically and politically embedded in the local communities, providing access to natural resources, generating economic income, and offering protection and social prestige among the inhabitants of this region. At the same time, armed groups control secure systems of extortion and patronage along the charcoal and timber trades, increasing their status and power.

As a major hub of illicit trade, the eastern DRC region is therefore a useful case study for understanding the complex relationship between crime, conflict and the environment.



View of the equatorial forests, eastern DRC, July 2021. Photo: Daan van Uhm

Methodology

This report focuses on the drivers, actors and harms behind the illegal charcoal and timber trade in the eastern DRC. The research is based on fieldwork carried out between 2019 and 2022 in the border area where the DRC, Rwanda and Uganda meet. The results show how complex relationships and interactions between armed groups, timber and charcoal traders, and local inhabitants contribute to illegal deforestation, causing socio-economic and environmental harm.

Interviews were conducted with people who were familiar with or involved in the illegal charcoal and timber trade, including loggers, charcoal producers, transporters, traders, representatives of local communities, (former) militia members, park rangers, a retired colonel from the Congolese army, and local and international experts from governmental and non-governmental organizations. In total, 53 people (28 in the DRC, 13 in Rwanda and 12 in Uganda) participated in semi-structured interviews to impart their knowledge of the trade's network structures and key individuals, as well as the drivers and harms behind the illegal trade in timber and charcoal.⁸ The majority of the interviews took place in North Kivu, in the eastern DRC; some were conducted in the provinces of Ituri and Tshopo, as well as border provinces in Rwanda and Uganda, between 2020 and 2022.

In addition, informal discussions and direct observations were conducted to add context to, corroborate, or refute the interview findings.⁹ Secondary data was also gathered from analysis of key documents, including reports by the United Nations Security Council (UNSC), NGOs and news articles.

This report does not claim to provide a complete picture of the complexity behind illegal deforestation in eastern DRC. However, by mapping out the key actors involved, how they operate, and the drivers and harms of their activities, the report provides an overview of the local political economy of the charcoal and timber trade. This includes the interface between legal and illegal activities, the convergence with other crimes, and the socio-economic and environmental harms associated with these activities. In the first section of this report, an overview is provided of the historical developments in the eastern DRC that have shaped the current violent landscape. This is followed by an overview of the various actors engaged in the trades and their motivations. The third section describes the processes of the illegal charcoal and timber. This is followed by a discussion of the convergence of crime in the region. The report ends with an overview of the socio-economic and ecological harms caused by large-scale illegal deforestation in the region.

The level of insecurity in the region makes it particularly challenging to identify solutions. However, this report puts forward the following recommendations:

- Interventions by national as well as international policymakers, law enforcers and NGOs would benefit from adopting a broader approach, one that tackles multiple, rather than individual, illicit commodities and problems simultaneously.
- Constructive dialogue among the different organizations active in this region is crucial.
 Conservation NGOs, corporations and state agencies can all play a role in transforming the social perception of what is legal and what is not in terms of natural resource exploitation and complying with the regulations.
- Law enforcement activities need to both respond to the high levels of violence in the area and acknowledge the socio-economic and political context in which criminal acts are often committed.
- Policy should be focused on encouraging positive interaction between humans and their natural environment by acknowledging the complex history and current violent landscape, providing alternative livelihoods and attributing ecocentric values to the ecosystems and its non-human inhabitants.

HISTORICAL, SOCIO-ECONOMIC AND ECOLOGICAL BACKGROUND

or centuries, global interest in the natural resources of eastern DRC has driven power struggles, wars and violence within the country. These conflicts have had direct impacts on people and the environment, including systematic oppression of the population and the destruction of natural forests. These patterns continue today in the form of environmental and human rights violations.¹⁰

Colonization: 1885–1960

In 1885, the Belgian King Leopold II declared the area now known as the DRC as his private territory and named it the Congo Free State.¹¹ He established the so-called domain system, which unequally divided land into 'native land' and 'vacant land', the latter of which was assigned to the state for exploitation.¹² Leopold's extraction regime – later known as the 'Red Rubber Regime' – caused the death of millions of indigenous people and in 1908, the Belgian state stepped in and took over the colony.¹³ In the decades after the Belgian acquisition, forced labour, inhumane working hours and brutal enforcement were part of daily life. Native land was continually confiscated by the state to be used for plantations, wildlife parks and anti-erosion forests.¹⁴

The Belgian colonizers took several measures to 'rationally manage' the environment. This included the establishment of the first national park in Africa, the Albert National Park – now known as the Virunga National Park – in 1925, mainly for the protection of the mountain gorilla.¹⁵ Most of the local inhabitants were evicted from the region to make this possible.¹⁶ During this time, large European enterprises were investing in concession areas in parts of eastern DRC to exploit natural resources like cobalt and timber.¹⁷ These developments strongly limited land access for local inhabitants, whose livelihoods depended on it.¹⁸

Independence: 1960-1990s

The Belgian colonization lasted until June 1960, when the DRC officially became independent.¹⁹ The first years after the declaration of independence were characterized by violence, political disputes and international interference.²⁰ In 1965, this largely settled when Joseph Mobutu led a successful coup to become the dictatorial president of the DRC, a position he held until 1997.²¹ He renamed the country Zaire and his politics became focused on the development of Zaire as a nation-state.²²

The national parks became symbols of his nation-building project, which was aimed at countering Western influences while emphasizing Zaire's cultural and natural heritage.²³ Mobutu established the Institut Congolais pour la Conservation de la Nature (ICCN) for the protection of the national parks.²⁴ Under his regime, all land in the country was declared property of the state, which not only undermined what was left of the reciprocal land system (which was based on mutual agreements between neighbours and families), but also linked political loyalty to land ownership and therefore to wealth, power and livelihood.²⁵

In the mid-1970s, when global resource prices tumbled and investments dried up, Mobutu's dictatorship started to crumble. Due to irregular payments and reduced control from the state, ICCN rangers and soldiers started to commercialize and privatize their authority through poaching, charcoal production and illegal fishing.²⁶ Zaire became bankrupt, resulting in the formation of regional and informal networks,²⁷ with ethnic and interest-based armed groups challenging the state's monopoly on the legitimate use of force,²⁸ while protecting local politicians.²⁹ Conflicts over land and local authority intensified and became interlinked with larger conflicts for political power and control over local resources.³⁰ At first, these conflicts were mostly regional. However, several intra-regional events and international interferences brought the conflict to a national level.³¹

Conflict: 1994-present

A highly impactful and horrifying event was the genocide in Rwanda in 1994,³² which eventually resulted in millions of Hutu refugees – including those who had orchestrated the genocide – fleeing over the border into the eastern DRC. During this time, the national parks in the region became the subject of large-scale deforestation, devastating pollution and heavy poaching for bush meat by the many refugees who settled in the region.³³ The period that followed was marked by the First Congo War (1996–1997), in which Mobutu was overthrown, and the Second Congo War (1998–2003), which ended with a peace agreement signed by almost all the political-military factions involved in the war.³⁴ They agreed to divide positions in the political and administrative institutions, and to disband the military wings and integrate these into a new national army, the Forces Armées de la République Démocratique du Congo (FARDC).³⁵

After a period of unrest, President Joseph Kabila was elected in 2006, creating relative stability nationally. However, in the eastern DRC, conflict, violence and socio-economic challenges persisted.³⁶ Millions of local inhabitants were internally displaced by wars, violence and volcanic eruptions, and poverty and insecurity were widespread.³⁷ Many armed groups that emerged during the wars stayed violently active in the region and became involved in the illegal exploitation and trade of natural resources, including charcoal and timber.

THE ILLEGAL CHARCOAL AND TIMBER TRADE

he eastern DRC's inhabitants and environment continue to be impacted by conflict stemming from violent competition over access to natural resources. As of 2015, the illicit exploitation of natural resources in the region was valued at over US\$1.25 billion per year.³⁸ Several militia groups are motivated, armed and financed directly by the profits from illegal deforestation. This, in turn, gives them a degree of local legitimacy by offering income and security for the local population, many of whom are forced to engage in illegal deforestation in order to survive.³⁹ Similarly, armed groups are seen as a 'viable employment option' for locals in the face of wider social and economic inequalities, which are influenced by the looting of the DRC's natural resources.⁴⁰

Armed groups involved in illegal trade

More than 130 armed groups are currently active in the provinces of North Kivu, South Kivu and Ituri,⁴¹ most of which either originated or became more active during the violent period of the 1990s.⁴² The most prominent in North Kivu are the Forces Démocratiques de Libération du Rwanda; Nyatura; the Congrés National pour la Défense du Peuple; the Mouvement du 23 Mars; Mai-Mai militias; and the Allied Democratic Forces.

Forces Démocratiques de Libération du Rwanda

One of the largest armed groups operating in the area is the Forces Démocratiques de Libération du Rwanda (FDLR), established in 2000 by former members of the Hutu paramilitary organization Interahamwe, who were organizing themselves to attack the Tutsi Rwandan government. Currently, the publicly stated purpose of the FDLR is to open 'inter-Rwandan dialogue' with the Rwandan government, although it allegedly still includes the overthrow of the Rwandan government. The armed wing of the FDLR is called the Forces Combattantes Abacunguzi and their numbers are estimated at between 500 and 1 600 combatants.⁴³ The FDLR currently has widespread control over the illegal charcoal trade in various areas, especially from the southern sector of Virunga National Park.

Nyatura

The FDLR frequently collaborates with other armed groups in the illegal charcoal business, including the Nyatura, an umbrella term for armed groups of Congolese Hutus. These groups are rooted in the armed mobilization of the early 1990s and the Hutu branch of an armed group called the Coalition

des Patriotes Résistants Congolais (Coalition of Resisting Congolese Patriots), which was active in the years after the peace agreement.⁴⁴ The term Nyatura (Kinyarwanda for 'those who hit hard') emerged in association with armed mobilization in the Congolese Hutu community around 2011. The Nyatura claim to protect the Congolese Hutu population from the Congolese army and other armed groups, but tend to act violently against locals who do not follow the rules. At the same time, they claim to provide an important source for livelihood and security for Congolese in the region.

March 23 Movement

In addition to the Hutu militia groups, Tutsi-based militia groups have been very active in the region since the Congo Wars, where they played a significant role, as they were backed by the Rwanda government. After the peace agreement, these Tutsi groups reorganized themselves into the Congrès National pour la Défense du Peuple (CNDP), a political armed militia group dedicated to protecting the Tutsi population and fighting the FDLR in the Kivu regions in eastern DRC.⁴⁵ In 2009, part of the CNDP became integrated into the FARDC, while another part reorganized themselves as the Mouvement du 23 Mars (M23) in 2012. In November 2012, the M23 occupied Goma, the provincial capital of North Kivu with a population of 1 million people. Influenced by international pressure and regional diplomacy, the M23 left Goma after two weeks and participated in peace talks with the Congolese government in Kampala.⁴⁶ In 2013, a portion of the M23 fled to Rwanda, while the remaining M23 was limited to small areas around the Mikeno sector of Virunga National Park.⁴⁷

Mai-Mai

Due to increased violence during and after the Congolese wars, other small-scale militia groups became more active as protection forces for 'their' communities in the eastern DRC. These groups are often captured under the umbrella term Mai-Mai, which refers to communal militias that emerged during the fight for Congolese independence in the 1960s.⁴⁸ Although these groups share the language of native belonging, autochthony and self-defence against outsiders, they are highly heterogenic and continuously changing in their formations.⁴⁹ They have strong connections with local and indigenous communities and many eastern DRC inhabitants have family members who belong to one of the Mai-Mai groups.⁵⁰ As of 2010, the total Mai-Mai militia membership in the eastern region was estimated between 20 000 and 30 000 individuals.⁵¹ In the central sector of Virunga National Park, Mai-Mai groups seek to control the southern and northern shores of Lake Edward, as well as the areas surrounding Butembo, South of Beni and the road towards Kasindi.⁵² These groups are involved in various illegal exploitation activities in eastern DRC, including deforestation for tropical timber and fisheries.

Allied Democratic Forces

Another dominant armed group in the region is the Allied Democratic Forces (ADF), which formed in 1996.⁵³ The ADF originally emerged in opposition to the Ugandan government and has become an Islamist Congo-based movement with internal divisions, maintaining a presence in eastern DRC for several years.⁵⁴ They have since been evolving as a powerful and radical militia group in the North Kivu region along the Rwenzori Mountains bordering Uganda, and particularly in the Beni territory, including parts of the northern sector of the Virunga National Park.⁵⁵ The ADF number approximately 500 combatants and they have been launching large-scale attacks against both civilians and the FARDC.⁵⁶ Mai-Mai militias fight back against the ADF, whom they locally call *égorgeurs* (throat-slitters), due to the violent nature of their attacks. The ADF would be responsible for more than one-third of the civilian killings in the Kivus, far more than any other armed group.⁵⁷ They have support networks in Beni, Butembo and Oicha, which they leverage to generate revenue from the production of coffee,



The bodies of locals killed during an ADF attack are carried through Beni, June 2021. Photo: Daan van Uhm

chocolate and pharmaceuticals, and through their involvement in the taxi business.⁵⁸ They also fund themselves by operating gold mines and harvesting and trading timber in their territories.⁵⁹

State actors involved in illicit trade

The Congolese army, the FARDC, is another armed actor in eastern DRC.⁶⁰ At US\$75–150 per month, the salaries of the FARDC soldiers are insufficient for maintaining a family, and soldiers do not receive proper health care, paid leave, pensions or other social benefits.⁶¹ This state of economic disadvantage means some of them turn to illegal activities, as illustrated by the involvement of FARDC commanders and soldiers in facilitating the illegal exploitation of and trade in charcoal and timber. These individuals extort, steal from or enforce taxes on citizens at roadblocks or in villages in exchange for protection.⁶²

Around 700 park rangers patrol the borders of the eastern DRC, Rwanda and Uganda in an attempt to protect and conserve the valuable ecosystem within the boundaries of Virunga National Park.⁶³ In 2005, Virunga's authority became a public-private partnership between the state-run ICCN and the Virunga Foundation, a British NGO.⁶⁴ In 2008, the Belgian prince Emmanuel de Merode became the park director and initiated several changes to combat the destruction of Virunga's natural environment. This included the introduction of a 'new security service' that consists of militarized rangers to reinforce the boundaries of the park.⁶⁵ These rangers are challenged by the presence of the various armed groups and other interested parties seeking to exploit the park's resources. Due to this difficult and violent environment, individuals among the ranks of the park rangers have also been linked to the exploitation of natural resources within Virunga National Park, mainly by turning a blind eye in exchange for money.

The United Nations Organization Stabilization Mission in the Democratic Republic of Congo (MONUSCO) is a peacekeeping force established by the UNSC in resolutions 1279 (1999) and 1291 (2000) to monitor the peace process of the Second Congo War.⁶⁶ Currently, the MONUSCO mission is to protect civilians, humanitarian and human rights defenders in the DRC.⁶⁷ MONUSCO has a force of approximately 18 000 in the DRC, with more than 30 nations contributing military and police personnel for peacekeeping efforts.⁶⁸ In recent years, some MONUSCO members have been associated with facilitating or participating in the illegal trade in natural resources.

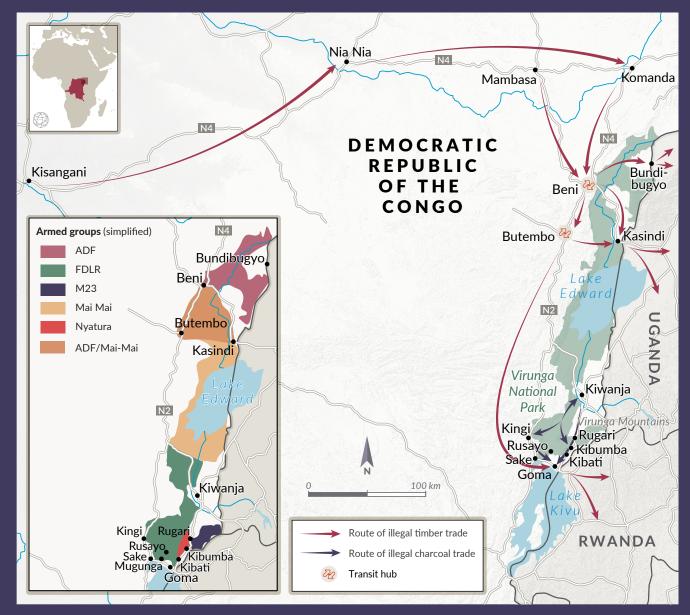


FIGURE 1 DRC, showing flows of illegal timber and charcoal trade.

ORGANIZED FOREST CRIMES

The illegal charcoal trade: Business as usual

Eastern DRC is home to what is considered one of the last remaining biodiversity hotspots on the planet, Virunga National Park, situated on the eastern edge of the Congo basin. The southern sector of Virunga National Park is home to major old-growth forests, commonly referred to as 'Virunga's forest'.⁶⁹ Although felling trees for the commercial trade of charcoal or timber is prohibited here, each year an estimated 1.3 million sacks of charcoal are removed illegally from this region alone.⁷⁰ An estimated 90% of the households surrounding the park do not have access to electricity and are dependent on charcoal (or *makala* in Swahili) as cooking fuel.⁷¹ More than 80% of that charcoal is illegally produced from old trees inside the park.⁷² To supply charcoal in such big quantities, armed groups and local charcoal traders are involved in the production, transport and sale. At the foot of Mount Nyiragongo, there is a *makala* 'highway', along which the charcoal sacks are transported. Transportation is facilitated by militia groups and corrupt officials who line the route, collecting 'taxes' from the carriers to supplement their underpaid wages.

By law, Virunga's south-western sector is under the control and jurisdiction of the park, but a large part of the area where charcoal production thrives is under de facto control of the FDLR,⁷³ which depends on charcoal as a primary source of income.⁷⁴ The FDLR's business activities are distinct from their traditional combat structures.⁷⁵ They have appointed groups of combatants to focus on 'non-conventional logistics' for acquiring money and supplies, and have installed their own workers



An underground kiln used to process charcoal, February 2021. Photo: Daan van Uhm



Tokens issued by the FDLR as proof of payment to access the national park for tree felling. *Photo: Daan van Uhm*

in Virunga National Park, where they intimidate park rangers in order to continue with their charcoal production.⁷⁶ The charcoal is produced by FDLR workers and local people who stay in the park in small huts,⁷⁷ cutting down trees and burning them in underground kilns.⁷⁸ The charcoal can be purchased directly from the FDLR in the park for US\$6.50 per sack.

The FDLR controls access to their southern sector park territory with a taxation system.⁷⁹ After consultation with the local FDLR commander, charcoal traders must pay US\$20–30 per person per month to access the area and cut trees. The FDLR then issues tokens, called *jetons*, which serve as proof of the payment (see the photo) and grant a well-demarcated concession inside the park for illegal charcoal business.⁸⁰ 'You pay, and they have a book, a register, where they put down your name,' explained one charcoal trader in Kimoka.⁸¹ For every 10 bags of charcoal, one is donated to the FDLR as additional payment. Obtaining permission is essential, especially since the FDLR has 'eyes' along the entire charcoal trade routes, including the surrounding villages and urban areas. Charcoal traders caught without tokens are punished, beaten or even killed by FDLR forces.

A respondent from the FDLR in Rugari explained how the FDLR works: 'There are laws, procedures.'⁸² He continued:

If you respect the agreement, and you follow the rules, you won't have any problem. [...] You really need to speak the language. If you don't respect that, you will be looking for your death. If you are lucky, you get beaten and arrested, but most of the time you get killed.

While men are often responsible for the deforestation and charcoal production activities, women are regularly responsible for the transport of charcoal out of the park. The FDLR employs local people who carry the charcoal from the park to depots in the surrounding villages.⁸³ They must walk with charcoal on their back for up to a day from the charcoal sites in the FDLR territory to surrounding villages, including Rugari, Kibumba, Kibati, Kiwanja and Kingi. As a female charcoal carrier in Kibati explained, women are obliged to show tokens from the FDLR for access and they operate in larger groups of 20 to 30 women to be less vulnerable to rape or other threats.⁸⁴ Just outside the FDLR

territory, carriers bribe corrupt members of the FARDC for US\$0.50–1.00 per charcoal bag on their way to the depots.

The depots belong to a businessman who buys the charcoal for US\$15 per bag either directly from the FDLR or indirectly from civilians connected to the FDLR. In other cases, the FDLR engage civilians to operate Fuso trucks or Haojue motorbikes to transport the charcoal to major towns. From the village depots, charcoal is mainly transported to Goma. The FDLR regularly provides civilians with motorcycles in exchange for periodic payments. Each motorcycle carries six to eight sacks of charcoal per trip. Over a 30-minute window, the researchers observed more than one motorcycle driver pass along the Goma–Rumangabo axes every minute, with an estimated total of 215–288 sacks transported in just half an hour.⁸⁵ The charcoal traders then pay protection money of US\$4 per sack to the FARDC brigades, who control the road at roadblocks strategically located at charcoal traffic bottlenecks. According to charcoal traders, even rangers from the Virunga Park who turn a blind eye must be factored into the calculations, as they ask for US\$0.50–1.00 tax per bag.⁸⁶

The taxes are characterized by a system whereby money generated at lower levels is transmitted to higher levels, following the contours of patronage networks. Larger-scale charcoal shipments are made with big trucks, which are reportedly often owned by corrupt high officials from the army since military vehicles are exempted from taxation, according to traders.⁸⁷ Once in Goma, the charcoal is distributed and delivered to the final consumers, who pay US\$25–30 per sack on the local markets. The total value of the illegal charcoal trade in Goma alone has been estimated at around US\$30 million annually,⁸⁸ while the annual production of charcoal in eastern DRC is estimated to be at least 293 000 tonnes of charcoal per year at a value of US\$58.6–175.8 million.⁸⁹ Given rapid urbanization, patterns of displacement and high population growth, these numbers may continue to increase substantially in the near future.

The FDLR benefits from its alliance with the Nyatura militia, which controls many of the surrounding villages of the southern sector of the park. The Nyatura represents not only an ethnic connection to the Congolese Hutu population, but also a source of human resources for the tasks of producing, transporting, guarding and trading charcoal. FDLR combatants provide trainings,⁹⁰ weapons,



Charcoal being transported from village depots to urban centres such as Goma, February 2021. *Photo: Daan van Uhm*

ammunition and uniforms to Nyatura armed group members from surrounding villages, according to a respondent with close ties to the chief of Rugari, a Nyatura-controlled town.⁹¹ He explained that Nyatura members join the FDLR and carry out operations together. One Nyatura member underlined the collaboration: 'We are their partners [...] we have [the FDLR] because they cannot come all the way from the forest to here and buy something. Therefore, they have all the reasons to protect us and the place we stay.'⁹² A charcoal trader described their relationship as follows:

Some of the FDLR are very familiar with the local communities and the park is also [located] close to the local population. [...] They know each other. [...] They also eat and buy things, goods, products from the local population [...]. Also, for instance, when someone is making charcoal in the forest and comes out, they might be sent for salt or sugar. [The FDLR members] give money, so you buy it and by the time you go back to the bush you bring it to them.⁹³

Such alliances and social ties are crucial for the FDLR to run the illegal charcoal trade, and to blend in with the civilian population. Moreover, this social embeddedness enhances the position of the FDLR when responding to attacks against them. The FDLR factions in charge of the charcoal businesses compete with and obstruct demobilization efforts by providing civilians and combatants with livelihoods. As one of the FDLR charcoal producers in Mugunga mentioned, 'Some people are doing charcoal, and some are able to buy. So, everyone is benefiting, it is like a routine.'⁹⁴ Another charcoal trader in Kiwanja explained, 'There is no alternative. Apart from being a source for livelihood, charcoal is business. A lot of people are taking an advantage of it and even if there are alternative solutions, it will be very hard to stop it.'⁹⁵ Both respondents are emphasizing the much needed economic gains of the illegal charcoal trade. For some it might be a business, but for many, it feels like their only way to survive. One charcoal trader in Mugunga, who is also a farmer, explained:

I was not born to do charcoal. I do it because I have to feed my family. That is why I started to do it [...]. Farming is waiting for crops to grow before you can do anything. With the charcoal, within a few days you make money [...]. You go into the forest, you come back, you have money.⁹⁶

This reflects the struggle for many Congolese inhabitants around Virunga National Park. Due to the day-to-day prerogative of feeding their families within the insecurity of an ongoing conflict, quick money is preferred over long-term investments. Moreover, alternative livelihood practices in the region are very limited; most people do not have access to land to benefit from agriculture or the resources to build a future in general. This, combined with the historical eviction of indigenous people from the park and the lack of government services, causes many to view charcoal production as justified.⁹⁷

The illegal timber trade: Concessions, taxations and community work

Deforestation has accelerated over the past decades due to agriculture, grazing of livestock, charcoal production, expanding villages and mining, as well as the illegal trade in timber.⁹⁸ Most of the logging in eastern DRC is illegal, as many loggers do not operate within demarcated concessions and do not comply with the regulations.⁹⁹ There are only a few industrial concessions, but nearly 90% of logging in the DRC is small-scale, illegal or informal outside of industrial logging concessions.¹⁰⁰ Often artisanal logging permits are allocated illegally, as they are issued to companies instead of individual artisanal loggers.¹⁰¹ Other illegalities and abuses range from the non-payment of taxes, logging outside

permitted areas, exceeding permitted volumes, fraudulent marking of timber and flouting rules intended to promote 'sustainable' logging, including the violation of social and environmental obligations.¹⁰²

In contrast to illegal charcoal, which is largely supplied to local markets, most of the illegal timber from the eastern DRC is destined for the international market and exported to neighbouring countries. Until 2007 more than 90% of the DRC's timber exports was destined for the EU, but, increasingly, timber exports are going to Asia.¹⁰³ Most of the illegal timber leaving the DRC goes to Uganda as a transit country.¹⁰⁴ The processed timber is transported through multiple routes from the DRC, some of which are official custom border points. According to respondents, timber is sometimes exported to Uganda and Rwanda, but not recorded in official statistics.¹⁰⁵ Timber traders consider it as a legal business once the timber has crossed into Uganda and Rwanda.¹⁰⁶

A large proportion of the timber comes from the primary rainforests in low-populated regions in the Congo basin, located along the roads between Kisangani, Bafwasende, Nia-Nia, Mambasa and Komanda. The Beni territory in North Kivu, considered the 'deadliest' area in the Kivu provinces, is almost completely exploited, driving entrepreneurs to explore the neighbouring provinces of Ituri and Tshopo.¹⁰⁷ The loggers focus mainly on timber from high-valued tree species, such as African mahogany (libuyu) and African teak (iroko). Timber cutters along the Bafwasende road explained that first, the high-value trees are selected and then the fellers carefully examine the tree to estimate the way it will fall in order to prevent injuries or casualties.¹⁰⁸ After the tree is felled with a chainsaw, it is sawn into planks, which are carried out of the Congolese jungle. If the main road is too far away to carry the sawn wood through the forest by hand, specially prepared wooden bicycles are used.

Due to the high profit margins on hardwood, timber trade in many parts of eastern DRC is largely conducted by or under the protection of armed groups, including militia groups and corrupt individuals of the Congolese army. For instance, timber merchants build relationships with local Mai-Mai groups or the ADF to facilitate the timber trade, since deforestation takes place in territories under the control of militia groups that require tax payments along the way.¹⁰⁹ Mai-Mai groups require traditional chiefs to authorize entry into the forests and civilians in the area to cut and transport wood as part of a communal work requirement, locally known as *salongo*. The planks of hardwood (450 x 30 x 10 cm) can be purchased directly from Mai-Mai groups for around US\$20. Moreover, Mai-Mai groups and the ADF permit timber traders to access their territory using a system of taxation and tokens. A timber trader from Beni explained:



Timber planks sawn from felled trees are hauled from the Congolese jungle, July 2021. Photo: Daan van Uhm

As a timber trader, you need to familiarize yourself with the group that controls the area you have your concession. You say that you are going to start a business in timber, and that you understand that you have to pay them. If you paid them, you feel okay, since government services are not there in those areas where militias control, but you know you can do your timber business when you have paid them.¹¹⁰

The timber trade has taken on a rather informal management system whereby militia groups interact with landowners, timber trade associations, traditional chiefs and high-ranking officials among the military to control the trade. Timber traders from North Kivu in particular have a reputation as professionals in the bordering provinces of Ituri and Thsopo. They bring in necessary resources, including electric saws and experienced loggers from North Kivu to saw timber into the required sizes in the forest. The timber networks pay Mai-Mai groups to gain access to the forests and 10–15% of the timber production must be paid to the Mai-Mai groups as tax. In addition, both the ADF and Mai-Mai groups tax chainsaws in their areas of control at a rate of US\$200–300 per year and punish the use of 'unauthorized' chainsaws with fines. In some cases, the timber traders must honour *salongo* obligations, contributing to the communities controlled by Mai-Mai. For example, timber traders in the Beni territory explained how they arrange the cleaning of the streets and fulfil other socially relevant services to receive the weekly tokens from the Mai-Mai group. As a timber trader in Beni explained:

In the area where [the Mai-Mai militias] operate, they ask [us] to do community work every Friday. They are the government, and they try to do good, better than the government. Those villagers who have cleaned get a token and the Mai-Mai will ask for a token if you go to their area, so the token protects you. Because if you don't, any villagers who do not have a token are taken to the mountains ...¹¹¹

As soon as the tokens have been received and the trees are cut, the logs of timber are placed along the main road between Kisangani, Bafwasende, Nia-Nia, Mambasa and Komanda. At this stage, other armed groups, including Mai-Mai groups that control the territory, may arrive to collect taxes that must be paid (up to US\$1 per plank). Buyers purchase loads of the assembled timber along the road sites, which is then loaded into big trucks destined for the international market. According to respondents, truckloads of 200 planks are purchased by timber traders directly from Mai-Mai groups as well as from corrupt high-ranked officers from the FARDC for around US\$10 000.¹¹² These key players at the production sites are often rebel and (ex-)army leaders collaborating with timber traders in a complex relationship. These practices can give both the timber traders and armed groups a powerful political and socio-economic position in the region.

Additional taxes must be paid along the transportation route from the point of production to the transit hubs and to the border because the surrounding areas are controlled by militia groups and roadblocks are put in place by the FARDC. Most taxes are paid in advance based on agreements with the relevant actors; intermediaries can assist to pre-arrange these payments. Respondents explained that corrupt FARDC officers are involved in trafficking, using their own trucks to transport the timber because army trucks are exempt from all taxes and controls on their way to trade hubs, such as Goma and Kasindi.¹¹³ According to a timber trader in Beni, 'you pay the military officers, from the army, for the transportation of timber. So, when you have a military truck full of timber, you don't stop them, you just let them go. And the checkpoints then can be avoided along the way'.¹¹⁴

In order to launder the timber, timber traders with concessions or corrupt government officials facilitate legitimate paperwork to cross the border at Kasindi to Uganda, or Goma to Rwanda. Timber traders



Members of the UN and timber traders, February 2021. Photo: Daan van Uhm

with concessions can collaborate with militia groups to launder their illegally harvested timber, listing it as harvested within the trader's concession. As a Congolese professor of political science in Kisangani explained:

There are industrial loggers who got a concession from the Congolese state. However, they need to pay rights to the local communities there, which they did not, and therefore they needed to stop their logging. To compensate, they now buy timber from the local people. So industrial loggers have the papers to sell timber, but they buy the timber from illegal artisanal loggers, who do not have a licence to log, being totally illegal.¹¹⁵

Timber traders with concessions in Beni are regularly approached for such services. For those timber merchants with concessions, militia groups offer protection for the merchant and his concession against other timber traders, thieves and armed groups. Respondents explained that sometimes internal disputes result in a truck full of timber being set on fire by the ADF, which creates insecurity for timber traders using the road between Beni and Kasindi.¹¹⁶ A Congolese timber trader at the Kamango–Bundibugyo border explained his relationship with the ADF:

We get permission from the people in power. They influence the situation. Their sons are the fighters of the ADF, so if you have their permission, you can pass the timber from Congo to Uganda. Without this relationship, you will risk your life every day.¹¹⁷

The timber is purchased for US\$20 at the logging site, costs US\$35-40 in the transit hub in Beni and arrives at the border for around US\$65. Dealers based in the larger towns in North Kivu, such as Beni, Butembo and Goma, have links with international timber traders, mostly Ugandans and Kenyans, and determine the scale of timber production through financing or equipping artisanal

loggers in exchange for timber at low prices. According to timber traders in Beni town, there are now pre-finance arrangements with foreigners from China, Europe, Kenya and Uganda to facilitate their deforestation projects.¹¹⁸ This is a drastic change in the market over the last 10 years, influenced by changing political, legal and socio-economic conditions.

Although in the past Congolese nationals were barely engaged in the timber production and trade, today their involvement in the production is extensive, with citizens now controlling parts of the timber trade into Uganda and Kenya. When Uganda and Rwanda officially withdrew their troops from the DRC, Ugandans shifted their role to providing pre-finance, in terms of equipment, cash, fuel and other supplies. The Kenyan and Ugandan traders currently operate at the DRC–Uganda border. Moreover, Congolese traders have an advantage over the Kenyan and Ugandan traders, as they are more familiar with the logistical and security networks. The restrictions on foreign actors engaging in local timber production have given rise to a new powerful player: the agent/broker. According to a broker in the Congolese border town Kasindi, brokers serve as intermediaries between producers and traders, securing and protecting the timber by collaborating with armed groups and clearing agents; they are in contact with legal and illegal entities charging taxes along the way. Many timber traders explained that without a Congolese, 'you cannot do timber business'.¹¹⁹

At the final stage, the illegally obtained timber is exported with legitimate paperwork, mainly via Kasindi to Uganda, or through Goma into Rwanda. A portion of illegal timber is being smuggled across the eastern borders; the DRC–Uganda border is estimated to have 300 smuggling routes, and only six official border points. According to timber traders in Kampala, Chinese crime networks based in Uganda play a more important role in the illegal timber trade as investors and distributors. In some instances, they collaborate directly with the militia groups – including the Mai-Mai militias – to facilitate illegal timber trade.¹²⁰ From Uganda and Rwanda, the timber is transported with trucks to eastern Africa, with a portion destined for export to Europe and Asia.

CRIME CONVERGENCE

rime groups in eastern DRC are often involved in multiple legal and illegal activities and markets; this convergence between legalities and illegalities can take many forms. Licit businesses are used to launder illegally obtained products, and profits are used to invest in legal businesses or real estate. Moreover, several local politicians and communities are supporting militia groups and in areas where civilians are suffering from poverty and have few legal opportunities, militia work sustains their livelihood. In addition, environmental criminal markets are converging with other serious crimes, including a variety of illegal businesses, the purchase of arms and ammunition with illicit profits, or links to corruption, extortion and kidnapping for ransom. As a result of these activities, the line between legal and illegal activities has become blurred and almost non-existent.

A blurring legal-illegal interface

The intertwining of the legal and illegal is one of the key characteristics of the political economy of the charcoal and timber trade in eastern DRC. Legal and illegal actors interact to facilitate the trade, illegally obtained timber products are mixed or laundered at several points along the trade chain, and profits are invested in legal businesses and real estate. Moreover, what is considered as legal or illegal products is subject to local perceptions.

Ambiguity of legality

The legality of deforestation activities can be ambiguous in multiple regards. For instance, in relation to charcoal production, the illegally obtained charcoal from Virunga National Park is considered high quality, as it is obtained from mature Ndobo trees. By contrast, legally produced charcoal from fast-growing planted and non-native eucalyptus trees is seen as low-quality charcoal, as it burns significantly shorter. However, both charcoal products are openly sold on markets in trade hubs such as Goma.

Illegally obtained timber can be laundered through legal documents to make it appear as if it is legally obtained within a concession or is mixed with legal products. As a representative of a local community in Kiwanja explained: 'Not all the timber comes from [Virunga National Park], some timber comes from people's gardens. Sometimes people are corrupted, they mix the illegal timber from the park with the timber from the local population.'¹²¹ Eventually, the timber is sold openly on timber markets and is considered legal, particularly after it has crossed the border to Uganda or Rwanda.

The legal-illegal interface is further blurred by disagreements about the boundaries of national parks, including the Virunga National Park. During the establishment of the park under Belgian colonialism, local communities were evicted from the lands of their ancestors. From the perspective of a representative of the indigenous Nande community, displacing their descendants should be seen as a form of land-grabbing: 'They took it by force, in the days of Albert, king of Belgium [...]. The land that they took, that belongs to us, it is our land.'¹²² Disagreements on land ownership and the lack of alternatives for locals, create further ambiguity about legality and illegality regarding deforestation in the region.

Corruption: offering Mayi

From corrupt FARDC soldiers taxing charcoal at roadblocks to MONUSCO members collaborating with illegal timber traders, many legal actors profit from illegal trade while facilitating criminal networks in their activities. Every Congolese charcoal and timber trader is familiar with the vocabulary of *Mayi* (water) and *Mabonza* (offering), which describe the bribes that are expected. Even employees from the environmental authorities can be bribed, according to one representative of a local community in Rutshuru:

Those guys [the environmental service from the government], they know it. But if you pay them, you can be part of the movement. They will show you the strategies to hide the charcoal, so you don't expose it, because it is illegal. That is why you cannot see the stores, because they are hidden from the main road.¹²³

In addition to government and institutional staff members, there are several local politicians and chiefs who are involved in the trade and sustain long-standing collaborations with militia groups like the ADF, FDLR and Mai-Mai militias. For instance, charcoal traders explained that the FDLR collaborates with local chiefs in the Rutshuru territory to facilitate the charcoal trade to Goma, and that the ADF collaborates with local chiefs in the Beni territory to facilitate the timber business along the Mbau–Kamango road.¹²⁴ This political support provides armed groups with a means for staying in power by allowing them to establish a patronage system that rewards followers while punishing opponents. In this way, these patronage networks influence the political situation by rewarding a close circle of political supporters, who benefit from mutual interests.



A roadblock near Butembo. Illicitly traded charcoal and timber are taxed by actors at such checkpoints. Photo: Daan van Uhm

Laundering illicit revenues

Lastly, the revenues from illegal trade are also reinvested in legal businesses. For instance, the FDLR own several trucks, which are used to transport legitimate goods like food and beer, as well as charcoal and timber. Meanwhile, they invest the profits from charcoal and timber in real estate in Goma. As a Congolese expert on crime groups in the Kivus explained:

Of course, these guys [FDLR] invest their profits, that's what happens here in Goma town. Large properties are bought up and this increases their political power. If you have money, you can do anything here! They invest in buildings, shops, clubs, making money [...]. They often work with locals from Goma town, they are here too, but you don't recognize them.¹²⁵

In this way, illegal entrepreneurs gain a lot of power and revenue, which gives them the opportunity to invest in a variety of legitimate businesses. Some traders have gained so much wealth that they are called 'charcoal barons' or 'timber tycoons'.¹²⁶ These are extremely powerful and socially respected individuals with control over large chunks of forests for exploitation.

Converging criminal activities

Illegal deforestation in the eastern DRC often does not stand alone, and various other forms of crime converge around the illegal trade of charcoal and timber. The charcoal and timber business by militias, including the FDLR, is often part of their broader portfolio of criminal activities, including illegal mining of minerals and metals (e.g. coltan and gold), arms trafficking, drugs production (e.g. cannabis grown in the park), wildlife trafficking (e.g. ivory trade) and kidnapping for ransom.¹²⁷

Diversifying criminal portfolios

According to an environmental crime expert from MONUSCO, a set of parallel FDLR cells is running a diverse, orchestrated set of illegal trades to sustain the movement, enrich commanders and share profits with partners, including other militia groups.¹²⁸ Several other respondents confirmed the diversity of FDLR's criminal portfolio, including a former militia member in Goma:

The FDLR has several levels. Some substructures focus entirely on the charcoal trade, while others focus on the military aspects and combatants, mining or ivory trade. [...] They collaborate with other armed groups, monitor different markets and communicate internally with satellite phones.¹²⁹

The infrastructure of the militia groups creates opportunities to diversify into different illegal markets in order to spread the risks and increase both their control and profit. In order to facilitate their trading activities, the various militia groups cooperate with different actors along the trade chain. For instance, FDLR members produce hemp and extract gold, which are then sold through Mai-Mai intermediaries. According to traders in Beni and Butembo, the ADF is involved not only in the harvesting and trade of timber, but also cacao, minerals and marijuana, and the profits are shared between the ADF and local traders.¹³⁰ The militia groups also collaborate with criminal networks from abroad, such as Chinese criminal networks based in Uganda, as a representative of a local community in Rutshuru explained:

The ivory is of their interest. [The FDLR] stock the ivory in Rutshuru [US\$90 per kilogram] and transport it in collaboration with the Chinese across the border into Uganda. They use secret roads, and the price is good. The Chinese in Congo are also interested in the ivory, but most of it goes directly to Asia.¹³¹

Combining commodities

Besides crime convergence in relation to multiple trade lines, according to several respondents, the infrastructure of the militia groups in North Kivu also provides opportunities to combine contraband.¹³² Groups often camouflage highly illegal commodities by hiding them among more socially accepted illegal products. For example, the FDLR produce cannabis in the Virunga National Park and hide it in packages of charcoal for trading, or conceal minerals among sacks of charcoal in trucks headed to Goma. A similar convergence is occurring in the illegal timber trade, which creates a perfect cover for other contrabands along the route. For example, timber traders at the Kasindi–Mpondwe border with Uganda explained how ivory, arms, minerals and metals are smuggled inside timber logs, making detection very difficult. A Congolese timber trader clarified how traders are expected to cut and hollow out logs of African mahogany to hide weapons or ivory:

Many timber traders know this secret. It's about smuggling illegal things, arms, gold, gems, but also ivory. Agents from the militia groups are in the business and approach you. You cut, make it flat again and clear the timber. You pass the control points with the ivory or arms and then you bribe officials along the way, so that they do not check the timber. Timber business is money!¹³³

The revenues from these different trades are used to facilitate the movement of militia groups and to expand their illegal activities. One of the important assets for militia groups is weapons and ammunition. In exchange for illegally obtained natural resources, like timber and charcoal, individual corrupt commanders of the FARDC sometimes supply the militia groups with arms and AK-47 ammunition. ([The Mai-Mai groups] get the guns through the army,' a representative of the local youth group in Butembo explained. 'Although they have mostly machetes, arrows and those things, they also have a couple of guns which they buy from the army.'¹³⁴

The FDLR operates similarly. 'Every now and then soldiers are attacked. The FDLR takes the weapons and ammunition from them,' explained a former colonel of the Congolese army.¹³⁵ A former militia member underlined this: 'That's how they get their arms, but deals are also made. Bartered or traded. Some officials from FARDC have good contacts and provide weapons in exchange for products, including timber or animal products.'¹³⁶ Thus, colluding actors in militias and government reportedly enable mutually profitable economic activities.

Kidnapping

Militia groups are also involved in kidnapping for ransom. This is illustrated by a timber trader in Beni who explained that when those who do not pay their dues to the dominant armed group beforehand might find themselves or the personnel operating on their concession kidnapped. 'You will end up paying a lot more money and violence in order to continue your business,' he said.¹³⁷ These criminal activities are in line with the broader activity of armed groups enforcing illegal taxes on anyone seeking to access the areas under their control.

Such diverse criminal portfolios resemble organized crime groups more closely than a traditional rebel army, given the militia's financial lifelines, diverse alliances and capitalization facilitated by extreme regional poverty and weak governance.

ENVIRONMENTAL CONFLICT AND SOCIO-ECONOMIC HARM

Conflicts over natural resources have resulted in many threats for the human population in the eastern DRC. This is illustrated by high numbers of killings in the region, from park rangers and officials to local politicians and civilians. According to Kivu Security Tracker, which is a joint project that has been collecting incidents in the Kivu regions, there were 726 incidents in which civilians were killed in 2020, and 929 incidents in 2021.¹³⁸ Some of the incidents involve innocent citizens who were victims of the 'system of conflicts' in the region,¹³⁹ while others are directly linked to disputes between actors in the illegal charcoal and timber trade.¹⁴⁰

Vicious circle of conflicts and victims

In recent years, numerous local inhabitants have been displaced and suffered at the hands of armed groups, including violent deaths, mass rape and kidnappings.¹⁴¹ Although some Congolese inhabitants are partly dependent on militia groups for their livelihood, there can be serious consequences for failing to make the required tax payments on charcoal or timber to the militias. 'If you refuse, they beat you, sometimes they break your leg. You cannot refuse,' explained a charcoal trader in Rugari.¹⁴² The FDLR sometimes hire members of the indigenous Batwa community to engage in illegal activities because they view them as a neutral and vulnerable group. One Batwa member in Kingi echoed the deadly consequences of not paying the FDLR:



Rangers in Virunga National Park, June 2021. Photo: Daan van Uhm

Now it's very dangerous. The FDLR is there, they are in control and kill people. [...] Two young Batwa were killed by the FDLR last month. They traded in charcoal for the FDLR but did not pay enough [tax]. They were shot.¹⁴³

Locals who engage in illegal forest activities referred to both the violence of militia groups as well as the militarized ICCN rangers. A local representative in Rutshuru explained, 'We are the target, they tie us up and torture us for a very long time. It's our land, not De Merode's [the current director of the park].'¹⁴⁴

However, the park rangers defending the park's borders are also frequently targeted by violent armed actors with interests in the park. In the last five years, at least 40 park rangers have lost their lives in 18 incidents while performing their jobs.¹⁴⁵ Rangers are deployed on a rotational basis in different sectors of Virunga. A ranger at the Kibumba ranger camp explained how he had just come back from the central sector, and how he had lost some of his close colleagues during clashes with militia groups. 'These are serious fights; I must pray to God that I am still alive.'¹⁴⁶ The head of monitoring and evaluation of Virunga National Park clarified that with the FDLR in the southern sector, Mai-Mai in the central sector and ADF in the northern sector of the park, many rangers are at risk during clashes with these armed groups.¹⁴⁷

The incidents in which park rangers are killed by armed groups are directly related to the environmental conflict in the area. For instance, according to a conflict expert who conducted research in the area at the time, in 2018, park rangers confiscated a truck carrying charcoal and imprisoned the people who were in it.¹⁴⁸ A militia group responded with what has been called the 'deadliest attack on Virunga staff in the park's recent history', in which several park rangers and one staff driver were killed in an ambush by a militia group.¹⁴⁹

In addition to revenge attacks, park rangers are threatened or killed by militias who are after their firearms. For example, Virunga rangers are highly militarized and often have more powerful weapons than many of the militia groups in the area. Therefore, in some cases, park rangers might be ambushed and killed for the express purpose of stealing their weapons. According to the latest report of the UNSC,¹⁵⁰ 15 ICCN rangers were killed and the same number of weapons stolen during three attacks in 2020 (on 3 March, 24 April, and 11 October). Moreover, on 10 January 2021, six park rangers were killed in an attack and their weapons – five AK-type assault rifles and one PKM machine gun – were stolen.¹⁵¹ This trend suggests a vicious circle, in which park rangers protect themselves and the natural parks by arming up, which simultaneously attracts attacks from militia groups seeking their weapons, which are in turn used by militias for further extortion, threats and killings. This pattern reflects how different interests regarding power, land and natural resources shape local realities, stimulate violent acts and result in socio-economic and environmental harm.

Environmental degradation and harm

The large-scale deforestation practices by illegal charcoal and timber businesses threaten the valuable ecosystem in the Virunga National Park. Globally, deforestation is responsible for one-fifth of all greenhouse gas emissions, which negatively effects the global climate systems on which contemporary and future humans depend.¹⁵² Moreover, tropical forests are the hubs of global biodiversity. More than half of the known species and organisms are found in the 6% of the earth's land surface covered by these equatorial forests.¹⁵³ Their fast-paced disappearance will further contribute to the extinction



At risk: mountain gorillas in Virunga National Park, June 2021. Photo: Daan van Uhm

crisis. Therefore, the degradation of the Congo rainforest – as the second largest rainforest in the world – will have serious and irreversible ecological consequences for the region and the world.

Many animal species in the eastern DRC, which are already on the brink of extinction, face large-scale habitat loss due to the disappearance of the vast equatorial forest areas. The mountain gorilla, bush elephant and okapi are highly dependent on a healthy and extensive habitat to survive. There are about 1 000 mountain gorillas (*Gorilla beringei beringei*) remaining on earth, and more than half of them live in the forests of the Virunga mountains.¹⁵⁴ The numbers of bush elephants (*Loxodonta africana*) in Virunga National Park have been decimated from around 8 000 individuals in the 1950s to around 500 in 2015 and 120 by the start of 2020.¹⁵⁵ The okapi (*Okapia johnstoni*) is endemic to the north-east region of the DRC and the numbers are estimated at between 10 000 and 15 000, down from around 45 000 in 1995.¹⁵⁶ The decline in numbers is not only caused by habitat loss, but also by poaching and illegal mining activities, as a ranger at Rumangabo headquarters of Virunga National Park highlighted:

We realize that there is no time to lose in a world where, every day, nature is threatened by deforestation, poaching [...] by humans. Many species are disappearing; we try to save them. The [mountain] gorilla population has been stable; now elephants return to Virunga, and we protect the hippos of Lake Eduard. It's part of our responsibility, it's our job.¹⁵⁷

The conflict over timber and charcoal has also resulted in highly endangered species being directly targeted. For instance, in 2007, the flagship animal of the Virunga National Park, the mountain gorilla, was targeted in retaliation for attempts to disrupt the illegal production and trade of charcoal and timber. An unidentified person or group had issued warnings that gorillas would be killed if the park rangers did not stop their interfering and ultimately, seven of the park's endangered mountain gorillas were killed by gunmen.¹⁵⁸ As the current director of Virunga National Park, Emmanuel de Merode, stated: 'None of the gorillas was cut up, and there was a baby still on one of the mothers [...]. A baby gorilla can fetch thousands of dollars on the illegal wildlife market'.¹⁵⁹ This suggests that the attack was not conducted for the sale of baby gorillas – as has occurred in the past – and more likely an act of revenge. Even though it was difficult to identify the actual killers, there was no doubt that the killings were linked to the charcoal trade in response to the confiscations by park rangers.

Another case from 2013 illustrates a similar pattern where Mai-Mai rebels launched a devastating attack on the headquarters of the Okapi Wildlife Reserve in eastern DRC in response to a crackdown

on poaching, illegal mining and deforestation in the park by ICCN rangers.¹⁶⁰ All 14 captive okapis at the headquarters, which were used as wildlife ambassadors for the local community, were killed during the event.¹⁶¹ These examples reflect how the ecosystem and its inhabitants can become direct targets in the environmental conflict.

The illegal charcoal and timber businesses are directly and indirectly causing extensive harm to society and the environment in the eastern DRC. Humans and animals have repeatedly become victims of violence, abductions, torture, death and destruction, mainly caused by the complex war-torn regional landscape. The environmental conflict in the area seems like a vicious circle, in which conflicts are mainly fought over access to land and natural resources in order to survive, but ultimately cause further degradation, resulting in new threats in the near future.

CONCLUSION AND RECOMMENDATIONS

hroughout history, the forests located on the eastern edge of the Congo Basin have been the subject of colonial oppression, dictatorship, devastating wars, violence, high levels of poverty and environmental conflicts. A combination of the competition over natural resources by armed groups, and lack of access to land for marginalized communities, complicates the situation of this vulnerable borderland. In recent years, deforestation has accelerated due to agriculture, grazing of livestock, expanding villages, mining and the illegal trade in charcoal and timber.

Influenced by the violent landscape of the eastern Congo, illegal deforestation for charcoal in the Virunga National Park, and timber trade from the Congo rainforest to the Beni territory, are facilitated by a complex web of power dynamics and diverse relationships. Mutually beneficial and sometimes conflicting relationships between legitimate and illegitimate governing actors reflect the complexity of the networks involved in the charcoal and timber business. The blurred lines between legal and illegal business activities, where many actors from both armed groups and government bodies have an interest in the continuity of the illegal trades, stimulate the local political economy around charcoal and timber. Militia groups are socio-economically and politically embedded in the local communities, providing access to natural resources, generating economic activity, and offering protection and social prestige to the inhabitants. Simultaneously, armed groups are increasing their status and power through their control systems of extortion and patronage along the charcoal and timber trade chains.

The rapid deforestation of one of the world's last remaining biodiversity hubs can have serious local and global consequences. Human and non-human inhabitants are suffering directly from deforestation, poaching activities and habitat loss, while the reduction of ecosystem functions may affect the living conditions for all of us. Both the park rangers trying to protect the valuable ecosystems in the area and civilians living in the region are facing high levels of violence from armed groups. While several species are on the brink of extinction. Suffering from great habitat loss, animals flee to the last remains of their natural habitats, which are targeted by actors involved in resource extraction.

Recommendations

While the number of victims suffering from the impacts of illegal extractive activities will continue to grow in the near future, the distinction between legal and illegal activities in the eastern DRC has become almost non-existent. Therefore, identifying solutions for illegal deforestation is challenging.

To be successful in the long term, law enforcement activities need to both respond to the high levels of violence in the area, and acknowledge the socio-economic and political context in which criminal acts are often committed. Specifically, arrests linked to illegal deforestation activities frequently target small traders and producers, who could be considered victims as part of the vulnerable and poor local population, rather than the more powerful instigators in privileged positions. Due to the presence of armed groups, interfering with trade triggers conflicts, disputes and clashes, as illustrated by the intense violence and dozens of killings each year.

In addition, there appears to be a tendency to narrowly look at illicit commodities individually. Interventions by national as well as international policymakers, law enforcers and NGOs would benefit from adopting a broader approach, tackling multiple commodities and problems simultaneously. The embeddedness of corruption in the eastern DRC facilitates the illegal activities that finance the conflict, emphasizing the need for a multifaceted approach to tackle the environmental crimes and harms. This would be a more appropriate response to the reality of crime convergence among different trafficking goods and other criminal activities.

Constructive dialogues between the different actors in the region are crucial. Conservation NGOs, the private sector and state agencies can all play an important role in transforming the social perception of illegality surrounding natural resource exploitation and in reinforcing the regulations. In this context, providing alternative livelihoods, including reforestation programmes, for the local inhabitants, is crucial. This can also contribute to reducing violence and improving security through demobilization programmes for the thousands of combatants present in the area. Lastly, reforestation would sustain the natural environment in the long term.

This study underlines the importance of understanding the complex history and current landscape of the political, socio-economic and ecological situation in the eastern DRC. Ultimately, policy should be focused on encouraging a positive relationship between humans and their natural environment. Instead of focusing on human- or nature-centred solutions in isolation, it is necessary to recognize eco-centric values, and place both human and non-human victims in the larger context of global biodiversity.



NOTES

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