

When Elephants Fight, it is the Grass that Suffers; Artisanal Mining & Conservation in the DRC

By: Micha Hollestelle, Asher Smith and Kirsten Hund

As indicated by the dire situation of protected wildlife and plant / tree species (e.g. the empty forest syndrome) in, predominantly, East DRC, conservation efforts in DRC are severely affected by the de-facto failing state situation and the environmental impacts of uncontrolled artisanal mining of minerals which are prone to be subject to rebel groups and criminal networks. As such, the minerals are believed to be a driver of the on-going lawlessness in key conservation zones leading to unequalled depletion of biodiversity. Yet, while leading developmental NGOs and donors have embraced the issue, though focusing on the social consequences, conservation NGOs have seemingly steered clear of the issue. This paper argues that doing so is at the peril of the unique wildlife and plant species found in DRC.

Analytically dissecting the issue, this paper will shed light on the different angles and issues to be tackled: direct environmental impact, poaching and other indirect impacts, criminal networks, and legality & enforcement. Ending with the conclusion and discussion, this paper seeks to demarcate the cornerstones of a successful strategy for conservation professionals in DRC to address artisanal mining.

Introduction

On June 24, 2012, ICCN (Congolese Wildlife Authority) wardens and some of their family members work their routines on their compound in Epulu when suddenly a crackle of machine gun fire ruptures the serene sounds of nature. Before the ICCN wardens and their wives find shelter or can even call for help from MONUC, Mai Mai rebels raid the compound. After a couple of apocalyptic minutes the rebels have killed all people present as well as the Okapis held on site. Adding to their trademark violence, the Mai Mai rebels

pillage the compound pilfering provisions, four wheel drives and other tools while burning or thrashing what they cannot use or take with. The wrath of the Mai Mai is believed to have been provoked by the local ICCN's prohibition of nearby artisanal mining activities and related law-enforcement issues such as elephant poaching. Mourning the victims, the DRC conservation community is left with the daunting task to design and implement effective interventions without risking the lives of those working in the field. For, with the empty forest syndrome already being upon too many Eastern DRC forests, disengagement is not an option.

Artisanal Mining in DRC at a Glance

The World Bank describes the DRC's ASM sector as "the most important segment of the mining sector" and estimates 10 million people, or 16% of the DRC's population, "either mine directly or are dependent on artisanal mining for their livelihood" and the number of people seeking to work in this sector is expected to rise dramatically over the next ten years (World Bank, 2008).

As the wealth on offer is significant when compared to other livelihoods available, to participants, ASM is an appealing industry. This rings all the more true for precious minerals like diamonds and gold that offer hope of 'the big find'. As ASM requires minimal education or skill it offers an attractive livelihood to demobilised soldiers, e.g. in the Ituri region, individuals from formerly opposed forces work in the same mine sites (Chishugi, 2011).

MICHA HOLLESTELLE

Advisor to Gabon Mining
(Gabon State Mining company)
at ZAGA Consultancy.

ASHER SARAH SMITH

Estelle Levin Ltd.

KIRSTEN HUND

Senior Mining Specialist at The
World Bank;
Natural Resource Extraction
and Sustainable Development
Specialist

Find the full report of this
summary in the Extractives &
HCV section online at:
<http://www.abcg.org/>

An ASM site does not only involve the actual miners, but also transporters, crushers, millers, processors (if mining hard rock, e.g. primary gold, or large stones, e.g. cassiterite), the *negociants* (buyers), as well as people providing support services such as cook-shops and petty traders. If the settlement is near the mining site, other service providers will set up shop: from brothels and bars to pharmacies and mobile phone stations. In sum, informal human settlements harbouring thousands of people are created wherever there are important mine sites.

Direct & indirect environmental impacts of ASM

Artisanal and small-scale mining has been operating in protected areas with little to no government control for decades, resulting in significant damage to wildlife and biodiversity in these areas. ASM currently takes place in about 40% of DRC's protected areas and is increasing in prevalence (IUCN, 2010).

One look at the moon-like landscape of areas where artisanal mining takes place tells a story of larger environmental impacts. As with large scale mining (LSM), ASM disturbs landscapes which are habitats to humans and animals alike. ASM related diversion and pollution of waterways often cause irreversible impacts. The characteristic which distinguishes ASM from LSM is the often disorganised concentration of people in temporary, ill-furnished settlements. Scrambling for resources, miners and their families rely on their natural surroundings for their survival, e.g. by hunting, fishing and logging. With mining camps often situated deep in the forest, and contributing to the organization of transport links between these camps and the outside world, a poaching problem becomes inevitable for meeting subsistence needs through bushmeat or for commercial gain, such as with the illegal ivory trade.

The extensive ancillary network is particularly significant when one speaks of ASM in protected areas as increased human populations put greater pressure on forest resources, e.g. more bushmeat consumption, forest clearing, and wood consumption for domestic and construction purposes. Also, construction of access routes for miners allows others to penetrate further into remote areas. In addition, one often finds buyers involved in other lucrative trade besides minerals, including the devastating traffic in protected species, such as elephant ivory. By contrast, in areas where there was no ASM, Hicks found no snares and only limited evidence of bushmeat and related trades (e.g. skins and ivory) in nearby forest zones. Researchers found that the miners relied to a higher degree on primate bushmeat than did villagers, and that a higher proportion of miners admitted to hunting and eating chimpanzees¹. They noted that in this case, miners often come from distant cities with more commercial economies

and fewer food taboos. Not only does this have an impact on the survival of this endangered species but it also raises health issues related to disease transmission, animal to human, human to human and human to animal (Hicks et al., 2010).

Air and water pollution are caused by the use of chemicals in mineral washing, most notably mercury, which is commonly used by gold miners. For example, research conducted in Ituri in 2010 revealed that a total mining population of about 7,500 miners released an estimated 600kg of mercury into surface water sources each year, and the miners had extremely limited knowledge of its impacts on people and wildlife².

"When the mercury comes in contact with the ground, it is absorbed by plants and animals, for instance by grass [...] Later the mercury finds its way into drainage systems [...] where] the metallic mercury is transformed into methylmercury by bacteria Methylmercury is even more poisonous than metallic mercury. The dangerous thing about this form of mercury is that it is more easily absorbed by organisms and thus enters the food chain [of people...] Mercury poisoning [of people] has a large number of symptoms [...]:

- [...] Severe pneumonia
- [...] Tremors
- [...] Mental disturbance, called erethism [...] where] the patient becomes acutely irritable, abnormally shy and often overreacts to criticism
- [...] Tunnel vision and severe brain damage

[... a] Foetus may concentrate the mother's content of mercury by a factor of ten. This means the child may be born with severe brain damage." (Chibunda and Appel, 2007)

"Legality" and Management of ASM in DRC's 'weak state' setting

All mining is illegal in protected areas in Congo. However, ASM in particular is illegal anywhere outside of a small number of nationally designated artisanal mining zones (AMZs) in Congo, none of which can overlap with protected areas. Unfortunately, these official AMZs represent only a fraction of the actual number of artisanal miners active in the DRC.

This issue of legality is even more complex on the ground. Many artisanal miners operate in a semi-formal space, sanctioned by one or several authorities and prohibited by others: some ASM may be illegal according to national legislation, but formal, or legal, at the provincial or local level if specific statutes or acts have been passed to provide for taxing and/or governing the activity. State mining laws are rarely enforced and the Mining Code is hardly known or taken into consideration in many areas. A space is often created for officially recognized tradi-

² Levin and Chishugi, research on artisanal gold mining in Ituri District, 2010

¹ Darby, unpublished data

tional, and thus official, authorities to permit ASM in their chiefdoms—some of which may encompass protected areas. Consequently, local authorities represent the primary legal concern for most miners, and most miners consider their work legal even though their activities are a transgression of the national law which supersedes local regulation.

However, the weak capacity and, often, limited willingness of DRC's formal institutions, including chiefs, to govern the artisanal mining sector is a major impediment to potential formal development of the sector, consequently adding to the plethora of factors that hamper stabilization in Congo.

Armed Groups; rebels or criminal networks?

Most artisanal miners work on a subsistence basis, so should one mine site or mineral become unavailable or exhausted, miners will relocate to or simply open different ASM sites, though some may find employment in other sectors. The transient and adaptable nature of the ASM workforce was acutely displayed in the face of the real embargo placed by the DRC government and the de-facto embargo as buying corporations await the SEC guidelines following the section 1502 of the US Dodd-Frank act of 2010 which bans the use of DRC mined minerals which fund armed groups. Faced with a decreased market for their product, artisanal miners have taken a variety of actions. Some miners have continued to mine but have been forced to sell their product at unfavorable terms offered by unscrupulous buyers who have the means to smuggle the minerals out of the country, thus further marginalizing miners (Hogg, 2011). Further anecdotal evidence suggests that many miners have moved into protected areas and other areas rich in natural resources to hunt bushmeat, make charcoal, and fell trees for timber, all of which have serious environmental impacts (Hayes, in Hogg, 2011).

Intersections between mining, conservation and armed-conflict are prolific; indeed it is next to impossible to fully explore one without considering the others. The relationship is exemplified in the Kahuzi-Biega National Park (KBNP in East Congo, near to Bukavu and Goma). In the KBNP, artisanal and small-scale mining has long taken place. Around 60% of the world's reserves of coltan allegedly lie within the KBNP (Fauna and Flora International, 2011). The KBNP is also home to armed groups and hundreds of unique species including the eastern lowland gorilla and the forest elephant.

Mid 2011, Research conducted in KBNP identified 918 ASM sites of which 405 had armed groups present³. Demonstrably, armed groups are regularly associated with the mining in the park through a variety of ways: charging taxes, providing security, and in some cases digging for

³ MONUSCO, BGR, CSO's and local government officials, personal communication, Chishugi, August-September 2011

gold themselves. Undeniably, the security situation in the DRC, and in particular Eastern DRC, is extremely dynamic, even when rebel activity has faded away.

Following a plethora of UN panel of experts on DRC, IPIS and Global Witness reports, it is fair to say that key stakeholders, ranging from armed groups to local and even national government authorities, benefit from promotion of instability rather than from rule of law. The entrenchment of the hunger for artisanally mined minerals in government institutions comes at the price of arrested societal development and conservation efforts alike. Incontrovertibly, civil servants' involvement in illegal mining actively undermines the rule of law so direly needed to protect apes and humans alike.

Conclusion

The fact that many of DRC's protected areas are impacted by artisanal mining should be a clarion for Congo's environmental and mining administrations to harmonize efforts and work together to establish a common strategy for managing this issue. Efforts to achieve this are underway, but more collaboration and cooperation is needed, particularly to create a conducive policy environment that allows for practicable yet efficient responses to threats to biodiversity from artisanal mining, and the perceived threat of conservation to (short-term) poverty alleviation. While ASM is viewed with suspicion by those aiming to protect the DRC's precious resources, there may be space for pragmatism. As showcased in other parts of the world, ASM *can* be done in a responsible manner, minimizing negative social and environmental impacts.

The direct environmental effects of artisanal mining may be limited in itself, however the sheer scale of the DRC's artisanal mining sector scales up the environmental effects to alarming proportions. Add to that that activities associated with artisanal mining include poaching, charcoal production and logging, and the case to include artisanal mining in conservation intervention strategies is clear. While the weak state symptoms which are abundantly present in DRC already hamper interventions, commercial interests of armed groups, of rebel or criminal nature, escalates the challenges even further. Still, the more epic the challenge, the more crucial the intervention that reins in forces which simultaneously work against development and conservation.

Discussion & Recommendations

When formulating an intervention to address artisanal mining, it is essential for conservationists to grasp the diverse interests of each stakeholder so they can know how to incentivize change. The same is true for formulating a policy to overcome parallel one-issue interventions by stakeholders in Congo: conservation organizations, development practitioners, artisanal small-scale (ASM)

and large scale mining (LSM) industry, peacekeepers and the human rights community. Diverse interests, goals, and agendas for each stakeholder converge when considering ASM in protected areas and critical ecosystems. What is more, as conservation efforts threaten interests of armed groups, conservationists can no longer claim to be neutral as their interest, like that of normal miners and the resourceful people of DRC, is an end to arms and criminality to foster development and conservation. Ways need to be found to curb further environmental annihilation without literally becoming a target for armed groups.

Without question, the involvement of armed groups in the mineral supply chain originating from protected areas is a critical factor in determining the feasibility of future engagement by conservation organizations as the tragic recent events in Epulu underline. By broadening the discussion from armed conflict alone to threats to human security including depletion of natural resources, a more holistic picture emerges revealing links between conservation, development, artisanal and large scale mining (ASM & LSM), and conflict. These links need to be untangled and cohesively addressed before proper management of protected areas can evolve in earnest. TRAFFIC, the wildlife trade monitoring network, aims at curbing illegal wildlife trade and has acknowledged these critical links. WWF-US has voiced its ambition to enhance knowledge on the fact and workings of the intertwined criminal networks which sustain illegal mining and trade while also supporting poaching and the ivory trade. Conservation organizations should consider joining this initiative by adding their field-based knowledge and thus providing a conservation perspective to the vast amount of existing experience, policy and literature on illegal and conflict-related trade. These perspectives are still lacking. For instance, no study dedicated solely to the correlation between small arms proliferation and poaching exists.

The fate of displaced artisanal miners merits further investigation and reflective cost-benefit analysis, such as impacts on poverty, local economies, and on the environment, as ASM may be pushed deeper into Congo's forest. In the case where they transition to a different vocation such as bushmeat hunting, charcoal making, or timber, carefully weigh the potentially exacerbated environmental impacts of this new endeavor versus those from mining. Well-managed artisanal mining, over time, may prove significantly less damaging to the environment and thus to the cause of conservation.

In conclusion, it merits mentioning that the sine qua non that binds development and conservation is rule of law, and law enforcement. As the overwhelming amount

of artisanal mining *outside* of official AMZs and *inside* of national protected areas demonstrates, further efforts to enforce national laws are futile until those institutions involved in upholding the law and in punishing perpetrators are under-capacitated at best or downright criminal at worst. If people do not respect human life, how will they respect the border of a national park?

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or contact Natalie Bailey, ABCG Coordinator at
nbailey@abcg.org



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