



Citation for published version:

Maconachie, R & Hilson, G 2015, 'Ebola and alluvial diamond mining in West Africa: initial reflections and priority areas for research', *Extractive Industries and Society*, vol. 2, no. 3, pp. 397-400.
<https://doi.org/10.1016/j.exis.2015.04.005>

DOI:

[10.1016/j.exis.2015.04.005](https://doi.org/10.1016/j.exis.2015.04.005)

Publication date:

2015

Document Version

Peer reviewed version

[Link to publication](#)

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Ebola and Alluvial Diamond Mining in West Africa: Initial Reflections and Priority Areas for Research

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Abstract

There is now a burgeoning body of literature which examines the impacts of Ebola in Guinea Conakry, Liberia and Sierra Leone. This analysis, however, has focused predominantly on health issues, emergency preparedness and the international response in all three countries. At the same time, it has grossly overlooked the social and economic impacts of the epidemic. Central to this discussion is state of alluvial diamond mining, a centrepiece of the rural economies of all three countries. This paper draws attention to this much-neglected area in the policy dialogue on Ebola in West Africa, and identifies priority areas for research moving forward.

Keywords: artisanal and small-scale mining (ASM); Ebola; diamonds; West Africa

1. Introduction

Over the past year, Ebola has claimed thousands of lives in Sierra Leone, Liberia and Guinea Conakry. All three countries, which rank at the bottom of the UN's Human Development Index and are therefore ill-equipped to combat the epidemic on their own, have reached out to the international community for emergency assistance. Numerous parties, ranging from NGOs such as Doctors Without Borders and the Red Cross, through various branches of the UN, to bilateral agencies such as the UK Department for International Development and USAID, have worked diligently in recent months to treat the infected and prevent the spread of Ebola in the sub-region.

There is now a sizable body of scholarship which examines in depth the impact of, international response to, and the movement of Ebola in, West Africa (Greenberg et al., 2015; Pruyt et al., 2015). The literature on these subjects seems bottomless, offering everything from new knowledge on potential transmission routes, courtesy of animal testing (e.g. Kilgore et al., 2015); through to new drug treatments and containment (e.g. Grigg et al., 2015; Miller et al., 2015; Washington et al., 2015; to critical reflections on 'lessons learned' by the international community on ways in which to coordinate the containment of future outbreaks of disease (e.g. Annette et al., 2015; Gostin, 2015). The sudden onset of the epidemic in West Africa has, indeed, provided innumerable opportunities for medical and health-related investigations. The academic community has responded favourably to the challenge, painting a fairly detailed picture of the effects Ebola has had in the sub-region.

But where this analysis falls considerably short is in its coverage of the socio-economic side of the epidemic. This is somewhat understandable given the lack of knowledge about the functioning and organizational structures of these countries' rural economies. All revolve heavily around an artisanal and small-scale diamond mining industry, which, rather inexplicably, continues to be overlooked in regional development policy. Specifically, although a considerable body of scholarship has emerged in recent years that provides in-depth and interesting perspectives on the dynamics of this sector – which employs hundreds of thousands of men and women directly and many millions more in the downstream industries it spawns¹ – in all three countries (Fanthorpe and Maconachie, 2010; Maconachie

¹ Although precise figures are unavailable, estimates of number of diamond diggers in all three countries have been provided: for Guinea, 95,000-110,000; Sierra Leone, 300,000; and Liberia, 75,000 (Maconachie, 2008; Chirco et al., 2012; World Bank, 2012). The general multiplier effect used is six, which means that in each case, the number of people dependent on artisanal diamond mining for their livelihood, across all three countries, exceeds one million. These figures are very conservative estimates.

2009; Hilson and van Bockstael, 2012, 2011; Bolay, M. 2014), policy dialogues continue to overlook, and at times, downplay, the socioeconomic importance of its activities. This crucial policy oversight has proved stifling for research: without the necessary support, backing and enthusiasm of governments, donors and NGOs, investigators have only managed to produce limited and piecemeal analysis of a sector that has long been shrouded in secrecy and which is poorly understood.

The view here, however, is that Ebola has caused considerable disarray in West Africa's alluvial diamond fields, to the point where 'cracks' are beginning to appear in the sector's *hitherto* impenetrable supply chains and the 'shadow networks' that have long underpinned its production. It is also magnifying how little is known about artisanal and small-scale mining (ASM) overall, and the shortcomings of approaches taken to formalize and support its activities, in West Africa. The upcoming months, therefore, promise to yield considerable insight about the dynamics of the sector's operations, trade and export routes, the key actors involved at each stage of the chain, and operators' needs, as the industry recalibrates in response to what appears to be major changes in purchasing and production due to Ebola. The purpose of this briefing is to highlight the priority areas for research on the impacts of Ebola on the West African diamond mining trade. If undertaken, this research could shed valuable light on the orientation of diamond supply chains in West Africa, and in the process, inform broader industry and development interventions such as the Kimberley Process and Fair Trade, the effectiveness of which have been limited by a shortage of data.

2. Ebola and West African Diamond Mining

2.1 The Context

Since the onset of the Ebola crisis in December 2013, mining activity in West Africa's Mano River Union countries has come to a grinding halt. The three impacted countries – Guinea, Liberia and Sierra Leone – share a rich, trans-border mineral belt that runs through the sub-region. Here, geological exploration has revealed a multiplicity of economically-exploitable low-value, high-bulk 'mineral clusters' (for example, iron ore and bauxite), which has attracted considerable foreign investment over the years (World Bank, 2010).

Guinea, Liberia and Sierra Leone are in a state of economic paralysis because of Ebola. Inflation has persisted, food prices and currency exchange rates have soared, and international investors have fled; industries have, as a result, come to a grinding halt. According to World Bank estimates, Ebola could cost the West African economy US\$32.6bn by the end of 2015 (World Bank, 2014).

All three Mano River countries share a long and complex history of inequality, dispossession and exploitation linked with extractive industries. Some commentators (e.g. Wilkinson and Leach, 2014) contest that the resulting uneven development has, in part, fuelled 'structural violence' and destabilized institutions, which has enabled Ebola to spread unchecked. In Sierra Leone, for example, as far back as 1930, the first large-scale iron ore operation at Marampa – run by a company called DELCO – exhibited all of the characteristics of a resource 'enclave', catalyzing few forward and backward economic linkages. By the 1970s, alluvial diamonds had become the key strategic resource that propped up the patronage-based political economy of the APC leader Siaka Stevens. Bureaucratic rent-seeking, a shadow state and accompanying inequality, therefore, were present long before the implementation of Post-Cold War structural adjustment programs or the advancement of present-day neoliberal capitalism. This lengthy history of exploitative political-economic relations has far-reaching implications that have contributed to the Ebola crisis. There is little disputing that these patterns and processes have perpetuated economic inequality, positioning some people

to generate enormous wealth, but deepening poverty for most, confining them to precarious and insecure livelihoods.

The recent influx of large multinational mining companies such as Rio Tinto, London Mining and Arcelor Mittal, which have been supported by World Bank and government policies aimed at encouraging large-scale foreign direct investment, has fuelled extraordinary economic growth in the region. Sierra Leone's economy, for example, expanded by more than 21% in 2013, largely as a result of a growing large-scale mining presence. But the adverse impacts of the Ebola epidemic and the recent collapse of commodity prices, most notably iron ore, have had a devastating impact on growth prospects for 2015. In Sierra Leone, arguably the hardest hit of the three countries, the macro-economic impacts of the crisis came into sharp focus when its second largest iron ore producer, London Mining, went into administration in October, 2014 (Neate, 2014). The London-listed company was one of the country's largest employers, providing jobs for 1,400 local people at its mine in Marampa, and contributing an estimated 10% to national GDP. The company was hit hard by a 40% drop in the global price of iron ore but the disruption caused by the Ebola epidemic proved to be the final nail in the coffin.

2.2 The Dynamics of Alluvial Diamond Mining in West Africa

Most debates around mining and Ebola have focused on macro-economic impacts, and the implications these have for the international business community. But the crisis also appears to be having devastating consequences at the micro-level, suppressing informal livelihood opportunities for poor people. This is particularly the case for people dependent on artisanal and small-scale mining (ASM) – low-tech, labour intensive mineral extraction and processing. The sector features prominently in the rural economies of all three Mano River countries. At the height of the crisis, when vast amounts of territory were in effective quarantine and regional trade routes were blocked, there were enormous logistical challenges facing ASM.

Considerable research has been carried over the past decade which has brought to light significant detail about the complexities of ASM in the region. For example, this body of scholarship has illustrated quite clearly that ASM not only employs hundreds of thousands of individuals directly in Sierra Leone, Liberia and Guinea, but is also an activity that is characterized by a high degree of mobility, and often takes place in confined spaces where there is poor safety practices and low levels of hygiene. Recent research carried out in all three countries (e.g. Maconachie, 2012, 2011; van Bockstael, 2013; Hilson and van Bockstael, 2012; Bolay, M. 2014; Bah, 2014) shows how complex the organizations structures of these ASM camps are, and has uncovered details of the dynamic labour hierarchies that underpin them.

Here, typically, between 20 and 100 miners work together on small plots, digging gravel, and then transporting and washing it. At the very bottom of a complex diamond supply chain is the digger, who is supported by a 'boss man' under a 'tributor-supporter' system. Chiefs, as guardians of customary land rights, have also long played an important brokerage role in the artisanal diamond sector. They typically serve as middlemen between investors ('supporters') seeking access to mining plots and local land-owners holding mining licences. 'Supporters' hire gangs of youth labourers ('tributors') to work their plots, typically supplying them with food and tools but offering no payment unless diamonds are found. The top of the supply chain is dominated by a series of dealers, brokers and agents, and then finally an exporter. At the top of the chain, there are Lebanese dealers and exporters, their success due to their ability to gain access to finance and external networks (with Belgian and other diamond importing companies). At the same time, however, manipulation of the system through collusion and price-fixing is not uncommon among Lebanese traders, and has helped them establish a dominant presence in the industry (Gberie, 2002). Whilst these ASM

communities certainly appear anarchic in their design, there is, in fact, a tightly managed and highly-ordered structure to both production and marketing. But who from these complex labour hierarchies has been most affected by the tight border controls implemented to halt the spread of Ebola?

Perhaps most importantly, this body of research has shown quite clearly that in the Mano River Region, ASM is not only a source of income for poor people, but also interlocks closely with a host of other downstream and ancillary activities that drive the rural economy (Maconachie, 2011). This micro-economy is defined by seasonal migratory labour streams: individuals 'straddle' different productive activities throughout the year, moving freely between different geographic locations. In Sierra Leone, for example, rural inhabitants often combine farming and ASM. The former is undertaken predominantly in the dry season when river levels are low, and the latter is carried out mainly during the rainy season. The income generated from diamond mining is then frequently reinvested into farming, or to finance the expansion of cash crops, such as coffee, cocoa and kola nuts (Maconachie and Binns, 2007). A different type of – albeit, equally important – ASM-farming linkage persists in rural Liberia. As Hilson and Van Bockstael (2012) report, in many of the country's rural communities, subsistence rice production propels artisanal diamond mining. Specifically, 'landowners' entice gangs of people to work diamond fields in exchange for food prepared with rice harvested on their plots.

But as hinted at the outset, research has not been able to paint a complete picture of the sector's dynamics, largely because of its 'underground' state. Reno (1995) was among the first to draw attention to the implications of this. Reflecting on the situation in Sierra Leone two decades ago, the author argued that the country's illicit 'shadow state' economy, and the local structures that sustain it, were inextricably linked to global networks, phenomena; much of the same persists today. This in large part explains why diamonds in Sierra Leone and surrounding countries have contributed to regional instability and potentially nourished criminal networks (Davies, 2006). Since September 11 2001, some commentators (Even-Zohar, 2003; Le Billon, 2006) have also suggested that the illicit diamond trade provides an effective vehicle for international money laundering, and is a potential resource for diverse 'terrorist' groups (FATF, 2013).

While the devastating socio-economic impacts of Ebola on West Africa's ASM sector are undeniable, at the same time, and as indicated, the crisis has potentially 'exposed' a number of key areas in need of further reflection and debate. Specifically, a gradual post-Ebola realignment of West Africa's diamond mining economy provides a rare opportunity to identify and engage with the main constraints associated with the sector. Above all, a more nuanced understanding of the structures of the region's existing mineral supply chains is urgently needed. Have sourcing patterns for alluvial diamonds as well as gold changed in response to Ebola, and if so, why? How have diggers, dependents and host governments adapted in Ebola-affected countries to potentially-diminishing demand for – and confidence in – alluvial diamonds? And, perhaps most importantly, what would a recalibrated ASM sector look like – one that is based on a more equal, just and sustainable structure?

It is against this background that the final section of the paper identifies a number of key areas for research.

3. Conclusion: Key Areas in need of Further Investigation

As containment of the Ebola crisis continues, and is now in sight, life in the Mano River countries is expected to soon 'normalize'. But as this unfolds, researchers, donors and policymakers will undoubtedly be treated to a rare glimpse of the innards of a sector that has long been shrouded in secrecy. What areas of investigation should be prioritized moving forward?

1. In-depth investigation of the impacts of Ebola on rural diamond-mining communities. Research that is no different methodologically to that undertaken pre-Ebola should continue to be carried out in Liberian, Guinean and Sierra Leonean diamond mining communities. The people living and working in alluvial mining areas will undoubtedly continue to experience some of the worst poverty in the region. While Ebola has had a devastating effect on ASM, the predominant national response – to restrict mobility – has been particularly damaging to the sector’s operators and the livelihoods of those it supports. All signs point to this approach having had a serious impact upon the day-to-day survival of hundreds of thousands of people residing within diamondiferous areas of West Africa. By taking stock of the paths these people have followed to ‘re-enter’ their lives, researchers will not only be able to examine the role ASM plays in day-to-day survival strategies, but will also find themselves in a unique position to map the ‘reconfiguration’ of the bottom pillars of alluvial diamond supply chains.
2. To determine how Ebola has changed West Africa’s diamond supply chains. Restrictions on the movement of people have no doubt severely curtailed artisanal diamond mining in all three countries. But there are also signs that sourcing patterns have changed in response to the crisis. Notably, many buyers in Surat, India, where an estimated 80% of the world’s diamonds are cut and polished, have reportedly stopped sending their traders to West Africa and have even returned parcels originating from Sierra Leone, Liberia and Guinea, over fears of contracting Ebola (Thomas, 2014). What changes – if any – have occurred in global sourcing patterns, and what impact has this had locally?
3. To determine what effect the Ebola crisis has had on neighbouring West African countries. Countries such as Ghana and Côte D’Ivoire are ‘minnows’ in the West African diamond mining trade. In both countries, production of diamonds is confined to small spaces: in the former, in and around the locality of Akwatia, and in the latter, mainly in the northern towns of Séguéla and Tortiya. But are these ‘lesser’ diamond-producing countries, *hitherto* unaffected by Ebola, now being targeted as possible substitute suppliers of rough stones? Any investigation, however, must take into account recent events in Côte D’Ivoire, where UN/Kimberley Process Certification Scheme (KPCS) diamond sanctions were lifted less than a year ago. Sanctions, it was widely believed, fuelled diamond smuggling from Côte D’Ivoire to neighbouring Ghana, Guinea, Sierra Leone and Liberia.
4. To determine the extent to which Ebola has affected the KPCS and ethical diamond schemes. It is no secret that donors and host governments have struggled to ‘map’ diamond production, sales and exports across the world. In West Africa, it has been a case of innumerable porous borders facilitating smuggling to the point where the origins of many diamonds are virtually impossible to pinpoint. Could a ‘reset’ of West African diamond mining prove to be the tonic which these parties so desperately need in order to better verify the sources of alluvial stones? Doing so could strengthen the sub-region’s diamond traceability schemes considerably, and finally make ethical (diamond) mining schemes – interventions which connect alluvial producers to Western jewellers – a reality.

This by no means an exhaustive list of areas of research which should be prioritized in the short-term. As Ebola appears to have forced the West African diamond mining economy to hit the ‘reset’ button, there may never be a more opportune time to map production patterns and revenue flows, and identify and dialogue with the key actors in the sector.

References

- Annette, M., Poirson, J.-M., Zingesser, J., Otto, P., De Balogh, K., and Boulet, H. (2015) Ebola virus disease in West Africa: A public health emergency becomes a complex crisis. *Unasylva*, 66 (243-244), pp. 67-78.
- Bah, M.D. (2014) Mining for peace: diamonds, bauxite, iron ore and political stability in Guinea. *Review of African Political Economy*, 41:142, pp. 500-515.
- Bolay, M. (2014) When miners become “foreigners”: Competing categorizations within gold mining spaces in Guinea. *Resources Policy*, Volume 40, June 2014, pp. 117–127.
- Chirico, P.G., Malpeli, K.C., Van Bockstael, M., Diaby, M., Cissé, K., Diallo, C.A., Sano, M. (2012) Alluvial Diamond Resource Potential and Production Capacity Assessment of Guinea. Scientific Investigations Report 2012–5256, US Geological Survey, Reston.
- Davies, V. (2006) Diamonds, poverty and war in Sierra Leone. In G. Hilson (Ed.), *Small-scale mining, rural subsistence and poverty in West Africa* (pp. 165-180). Rugby: Intermediate Technology Publications.
- Even–Zohar (2003) Financial Constraints Study, June 2003. www.peacediamonds.org (Accessed 13 March 2015).
- Fanthorpe, R. and Maconachie, R. (2010) Beyond the 'crisis of youth'? Mining, farming, and civil society in post-war Sierra Leone. *African Affairs*, 109 (435), pp. 251-272.
- Financial Action Task Force (FATF) (2013) *Money Laundering and Terrorist Financing Through Trade in Diamonds*. Financial Action Task Force, Paris.
- Gberie, L. (2002) War and peace in Sierra Leone: diamonds, corruption and the Lebanese Connection. Occasional Paper 6, Ottawa: Partnership Africa Canada.
- Gostin, L.O. (2015) World Health Organization Reform: Lessons Learned from the Ebola Epidemic. *Hastings Center Report*, 45 (2), pp. 6-7.
- Greenberg, N., Wessely, S., and Wykes, T (2015) Potential mental health consequences for workers in the Ebola regions of West Africa - A lesson for all challenging environments. *Journal of Mental Health*, 24 (1), pp. 1-3.
- Grigg, C., Waziri, N.E., Olayinka, A.T., Vertefeuille, J.F. (2015) Use of group quarantine in ebola control — Nigeria, 2014. *Morbidity and Mortality Weekly Report*, 64 (5), p. 124.
- Hilson G., and van Bockstael S. (2012) 'Poverty and Livelihood Diversification in Rural Liberia: Exploring the Linkages Between Artisanal Diamond Mining and Smallholder Rice Production'. *The Journal of Development Studies*, 48 (3), pp. 416-431.
- Hilson G. and Van Bockstael S. (2011) 'Diamond Mining, Rice Farming and a "Maggi Cube": A Viable Poverty Alleviation Strategy in Rural Liberia'. *Journal of International Development*, 23 (8), pp. 1042-1053.
- Kilgore, P.E., Grabenstein, J.D., Salim, A.M., and Rybak, M. (2015). Treatment of Ebola virus disease. *Pharmacotherapy* 35(1), pp. 43-53.

Le Billon, P. (2006) Fatal transactions: conflict diamonds and the (anti) terrorist consumer. *Antipode*, 38 (4), pp. 778-801.

Maconachie, R. (2008). Diamond mining, governance initiatives and post-conflict development in Sierra Leone. BWPI Working Paper 50, School of Environment and Development, University of Manchester, UK.

Maconachie, R., 2009. Diamonds, governance and 'local' development in post-conflict Sierra Leone: Lessons for artisanal and small-scale mining in sub-Saharan Africa? *Resources Policy*, 34 (1-2), pp. 71-79.

Maconachie, R., (2011) Re-agrarianizing livelihoods in post-conflict Sierra Leone? Mineral wealth and rural change in artisanal and small-scale mining communities. *Journal of International Development*, 23 (8), pp. 1054-1067.

Maconachie, R., (2012) Artisanal diamond mining and rural livelihoods in Sierra Leone: continuity, change and challenges. In: Van Bockstael, S. and Vlassenroot, K., eds. *A Farmer's Best Friend? Artisanal diamond mining and rural change in West and Central Africa*. Ghent: Academia Press, pp. 11-32.

Maconachie, R. and Binns, T. (2007) 'Farming miners' or 'mining farmers?': Diamond mining and rural development in post-conflict Sierra Leone. *Journal of Rural Studies*, 23 (3), pp. 367-380.

Miller, L.A., Sukalac, T., Stanger, E., Senesi, R.G.B., DeLuca, N., Dietz, P., Hausman, L., Kilmarx, P.H., Mermin, J. (2015) Use of a nationwide call center for Ebola response and monitoring during a 3-day house-to-house campaign — Sierra Leone, September 2014. *Morbidity and Mortality Weekly Report*, 64 (1), pp. 28-29.

Neate, R. (2014) Mining company at centre of fight against Ebola in Sierra Leone goes bust. *Guardian*, Thursday 16th October 2014. www.theguardian.com/world/2014/oct/16/london-mining-fight-ebola-sierra-leone-goes-bust (Accessed 12 March 2015).

Pruyt, E., Auping, W.L., Kwakkel, J.H. (2015) Ebola in West Africa: Model-Based Exploration of Social Psychological Effects and Interventions. *Systems Research and Behavioral Science*, 32 (1), pp. 2-14.

Reno, W. (1995) *Corruption and State Politics in Sierra Leone*. Cambridge University Press, Cambridge.

Thomas, M. R. (2014) Ebola outbreak dulls diamond industry. *The Times of India*, September 7, 2014. <http://timesofindia.indiatimes.com/business/india-business/Ebola-outbreak-dulls-diamond-industry/articleshow/41906802.cms> (Accessed 15 March 2015).

Van Bockstael, S. (2013) The persistence of informality: Perspectives on the future of artisanal mining in Liberia. *Futures*, Volume 62, Part A, October 2014, Pages 10–20.

Washington, M.L., Meltzer, M.L. (2014) Effectiveness of Ebola treatment units and community care centers — Liberia, September 23–October 31, 2014. *Morbidity and Mortality Weekly Report*, 64 (3), pp. 68-69.

Wilkinson, A. and M. Leach, 2014, Briefing: Ebola – myths, realities and structural violence, *African Affairs* (accepted for publication).

World Bank (2010) West Africa Mineral Sector Strategic Assessment (WAMSSA): An Environmental and Social Strategic Assessment for the Development of the Mineral Sector in the Mano River Union. Report No. 53738-AFR. World Bank, Washington DC.

World Bank (2012) Gender Dimensions of Artisanal and Small-Scale Mining A Rapid Assessment Toolkit. World Bank, Washington DC.

World Bank (2014) *The Economic Impact of the 2014 Ebola Epidemic: Short and Medium Term Estimates for West Africa*. World Bank, Washington DC.