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Original article

# “It can lift someone from poverty”: Imagined futures in the Sierra-Le-onean diamond market

Nina Engwicht[a,b,*]

[a] Max Planck Institute for the Study of Societies, Paulstr. 3, 50676, Cologne, Germany
[b] Peace Academy Rhineland-Palatinate, University Koblenz-Landau, Kaufhausgasse 9, 76829, Landau, Germany

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ABSTRACT

This article aims to draw attention to the role of the future in artisanal mining. It argues that in order to understand the dynamics of artisanal mining, research must understand miners' imaginaries of a better future which inform their economic strategies in the present. Drawing on Jens Beckert's (2016) concepts of fictional expectations and imagined futures, the article investigates projections of the future and strategies of future-making in the Sierra Leonean diamond market. If these expectations remain poorly understood, development policies will not be able to address the needs of mining communities.

## 1. Introduction

Artisanal mining has often been depicted as an unsustainable economic strategy; it is environmentally hazardous and detrimental to the health of miners (Sánchez-Vázquez et al., 2016) who are often trapped in poverty and exploitative social relationships (Hilson, 2006) and operate outside of the legal framework (Hilson et al., 2017). Moreover, mining booms have been associated with conflicts between adjacent communities (Walsh, 2003), conflicts over autochthony (Bolay, 2014), sexual violence and transactional sex (Kelly et al., 2014; Rustad et al., 2016), child labor (Hilson, 2010), and a heightened risk for violent rebellion (Lujala et al., 2005). Advocacy groups and policy consultants in particular have a tendency to depict artisanal mining as a “casino economy”, in which nobody ever strikes it rich (e.g. Partnership Africa Canada and Global Witness, 2004), while scholarly research has developed a more nuanced perspective on artisanal mining as an economic activity that provides a livelihood to millions of people in the Global South (see Hilson and Maconachie, 2017).

Both scholarly and policy-oriented research on the driving forces of artisanal mining tends to portray artisanal mining as a livelihood activity with a short-term time focus. Studies investigating the role of “hot money” and “conspicuous consumption” in the practices of artisanal miners have depicted mining as an activity with a strong orientation towards the present, stressing that income derived from artisanal mining is often spent on the spot and on ephemeral goods (Walsh, 2003; Cuvelier, 2017). Especially young men use mining income as a means to “live for the moment” (Walsh, 2003: 291). In a socio-political context which has assigned young men the role of powerless dependents, fast spending can be understood as a means of self-actualization through which they free themselves from an oppressive social structure and reclaim their agency (Walsh, 2003). As Werthmann (2009) and Pijpers (2011) point out, conspicuous consumption of mining income seems to be a predominantly male phenomenon, while profits made by women through mining or mining-adjacent activities might be more likely to benefit the household or be invested in more sustainable ways. In contrast to the “hot money” narrative, research investigating the role of mining as part of the livelihood portfolio of marginalized rural and migrant populations stresses that artisanal mining is often a vital subsistence strategy complementing farming-generated income (Hilson, 2006; Maconachie and Binns, 2007; Pijpers, 2014). For many families, mining provides the only source of cash while farming provides food (Bürge and Cartier, 2011). Households plan mining and farming activities according to seasonal cycles, required labor force and anticipated income from mining (Maconachie et al., 2006). In this sense, mining is a strategy of rural livelihood diversification.

This article aims to complement the growing literature on the temporalities of mining, and more specifically to the role of the future in artisanal mining. It argues that mining research needs to pay stronger attention to miners' orientation towards the longer-term future – in particular, the aspiration of creating a better life for oneself and one's family. The future remains a largely neglected theme within the literature on artisanal mining. Where temporality plays a role, it is mostly through reference to a history of undemocratic and unaccountable political institutions, structural adjustment and agricultural crisis which have caused the poverty and marginalization that are at the root of artisanal mining in its present forms (Banchirigah, 2006: 167;

* Corresponding author. Present address: Peace Academy Rhineland-Palatinate, University Koblenz-Landau, Kaufhausgasse 9, 76829, Landau, Germany.
*E-mail address:* engwicht@uni-landau.de.

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Verbrugge, 2016: 109).[1] In this case, the present is explained through the past. This article aims to further the debate on artisanal "mining temporalities" by exploring miners' conceptions of the future as they inform their actions in the present. Conceptually, it draws on Jens Beckert's (2016) notion of fictional expectations, which Beckert posits as a building block of a sociology of economic action that starts at the micro-level of society. Using the artisanal diamond sector in Sierra Leone as a case study, this article analyses actors' imaginaries of the future and their strategies to make this future come true.[2] I argue that understanding artisanal mining as an economic strategy with a short-term orientation, directed mainly toward subsistence, neglects the agency of market actors that employ mining as a strategy for upward social mobility.[3] While the analytical focus of this article is on artisanal miners, it places their economic imaginaries and future-making practices within the broader social and historic context of the diamond market in Sierra Leone.

The discussions and arguments in this article offer insights that are relevant to researchers and practitioners of natural resource governance and environmental peacebuilding. Development efforts have long favored large-scale mining projects, assuming that these are easier to control and tax than hundreds of thousands of artisanal miners that are a hallmark of mining landscapes in the Global South (International Labour Organization ILO, 1999; Hilson et al., 2017). This is presently changing as international organizations and donors are increasingly interested in artisanal and small-scale mining (ASM) sector reform (ibid., Hilson and Maconachie, 2017). If policy interventions in artisanal mining sectors are to be successful, policy-makers need to take seriously the future orientations of their participants.

## 2. Imagined futures: fictional expectations and economic action

With its focus on artisanal mining and the role of future imaginaries, this article contributes to a re-emerging social science of the future (e.g. Bell, 1996; Adam, 2010; Schulz, 2015; Miyazaki and Swedberg, 2017). In particular, the article draws on Beckert's (2016) concept of imagined futures. At the root of this concept lies the observation that the study of capitalism has largely neglected the temporal order of capitalist economies, specifically the temporal orientations of economic actors and their impact on capitalist dynamics. The analysis of capitalism, Beckert argues, requires an understanding of actors' expectations of the future and their impact on economic decision-making in the present.[4] Scholars of temporality have posited the ability to imagine a future that differs from the present, as one of the defining characteristics of modernity in general, and of modern capitalism in particular. The shift from traditionalism to capitalism is characterized by an enlargement of actors' time horizons – from cycles repeating familiar states of the world to an open, and thus shapeable, future (Bourdieu, 1979; Koselleck, 1979).[5] Economic actors create imaginaries of the future, their own place within this future and causal pathways that will lead to it by means of "fictional expectations", i.e. "interpretative frames", based on predictions of future scenarios, which inform their decision-making (Beckert, 2016: 9). Fictional expectations are not delusions. They are usually based on facts and are accompanied by a narrative, detailing how the envisioned future will come into being (Beckert, 2016: 69). Narratives supporting fictional expectations present themselves as "stories, theories, and discourses" (Beckert, 2011), in which actors anchor their economic decision-making. Fictional expectations have considerable emotional gravity, providing actors with the hope of dream-fulfillment and the satisfaction of working toward their goal. Economic actors act "as-if" their projection of future outcomes was accurate and they act "in-order-to" (Beckert, 2016: 49) make this imagined future come true, thereby creating a feedback loop between imaginaries of the future and their creation. By directing their action towards the realization or avoidance of predicted future states, economic actors shape future outcomes. Fictional expectations thus hold immense creative potential as they enable actors to envision and strive towards a reality that differs from the present, thereby opening up the future for new and unchartered pathways. In contrast to economic theory, the sociological conceptualization of the idea that economic action is oriented toward the future works on the assumption that the future is fundamentally uncertain and hence unforeseeable. Furthermore, economic imaginaries are "socially embedded", meaning they are influenced, amongst other things, by collectively shared beliefs and narratives, cultural frames, institutions, networks, opportunity structures, and cognitive devices available to economic actors. They can also be shaped, manipulated and managed through "politics of expectations" (Beckert, 2016: 79).

## 3. Mining imaginaries: future orientations in extractive societies

Corresponding to the recent interest in time and temporality in the social sciences, a number of studies have investigated the relationship between natural resource production and use and expectations of the future. In their edited volume "Timely Assets: The Politics of Resources and their Temporalities" (2008) Ferry and Limbert have explored the relationship between natural resources and senses of time, including imaginations of resource futures that are embodied in feelings of optimism, apprehension or dread. The authors of this seminal work draw attention to the fact that understanding something as a resource already implies an orientation toward the future. The anticipation of potential futures is inherent in the conceptualization of materials, people or knowledge as resources. The process of resource-making entails the construction of a potential use-value as the source of future profits (Ferry, 2008). Through notions of "risk, hope, dread, fate, and life span" (Ferry and Limbert, 2008: 15) the future takes hold in the present. Drawing on Ferguson's (1999) now classical study of economic decline in the post-boom Zambian Copperbelt, Ferry and Limbert link the production and management of natural resources to understandings of modernity, calling attention to the fact that interpretations of modernity are often tied to nations' capability to govern their environmental assets. In a similar vein, Weszkalnys (2014) examines the material effects of expected future states that become productive through the anticipatory reactions of individuals and collectives in the present. In her study of São Tomé and Príncipe's preparation for large-scale oil production, Weszkalnys illustrates how societies actively position themselves toward predicted outcomes, instead of passively awaiting their "fate". The realization of political measures to avert, mitigate or actualize specific outcomes represents the "temporal politics" of the "not yet". Like Beckert, Peet and Watts (1996) conceptualize the relation between the present and the future through the notion of imaginaries. Building on Castoriadis' concept of social imaginaries, the authors introduce the concept of "environmental imaginaries" to describe the "situated knowledge" (Peet and Watts, 1996: 263) through which people relate to and instill with meaning the environment they live in. Environmental imaginaries are expressed through discourses, practices and political forms that take into account the historically grown and place-specific social relations of people to their natural

[1] For a detailed discussion of the literature, including the topics of seasonality and boom and bust cycles, and fluctuations in market prices see Lanzano(this issue).

[2] The findings presented here are the result of six months field research on the Sierra Leonean diamond market in 2012 and 2013, mainly in the diamond-producing regions of Kono and Zimmi, in the border region to Guinea and in the capital Freetown. Data collection took the form of in-depth, serial and biographical interviews as well as everyday conversations with market actors (legal and illegal miners, dealers and exporters), interviews with state agents, NGO and development agency staff and journalists, and observation in mines, dealers' and exporters' offices and illegal market places.

[3] For broader debates on structure vs. agency see e.g. Sewell, 1992.

[4] Similar concepts relating to the future orientation of economic actors have previously been introduced under the label "economy of dreams" (Miyazaki, 2006) and the study of "hope in the economy" (Miyazaki and Swedberg, 2017).

[5] For a critique of the dichotomy between modern and traditional temporalities, see e.g. Adam, 2003.

environment. Nature thus becomes a "[source] of thinking, reasoning, and imagining" (Peet and Watts, 1996). Like Beckert, Peet and Watts (Peet and Watts, 1996: 268) stress the creative potential of imaginaries, which render possible "the projection of thought into the scarcely known – so that it is a vital source of transformational, as well as merely reproductive dynamics."

In contrast to perspectives that stress the transformative potential of the future for societies and individuals, other studies have called attention to anticipations of bleak, insecure or even disastrous futures. Limbert (2008), for example, investigates expectations connected to the end of oil wealth in Oman, while Weszkalnys (2014) analyses projections of a Santomean resource curse. Correspondingly, in his study of Tantalum mining, Smith (2011) employs the notion of "temporal dispossession" to describe the ways in which people in the Democratic Republic of the Congo experience being stripped of the ability to envision and build their future. By conceptualizing Tantalum as a "digital mineral" Smith furthermore links the temporal aspects of mining in the Global South to the dynamics of global capitalism. However, despite having lived through violent displacement and dispossession, in large part *because of* Tantalum, many people in the DRC still envision a potentially positive future *through* Tantalum mining. In a similar vein, sapphire miners in the post-rush Malagasy town of Ambondromifehy investigated by Walsh (2012) still conceive of positive and meaningful futures for themselves as they navigate their lives against a background of uncertainty and decline.

In particular, this article builds on studies by Pijpers (2014, 2017), Bøås (2015) and D'Angelo (2014, 2015, forthcoming); that have previously explored imaginaries of people involved in the Sierra Leonean diamond sector, including imaginaries of the future. Bøås (2015) finds that diamond mining fulfills a double function: one of subsistence and one of self-improvement, commenting on the ephemeral settlements that materialize wherever there are rumors of untapped diamond resources: "What sustains them is the dream: the vision and imaginary of the great diamond that will one day emerge in their hands" (Bøås, 2015: 49). In a similar vein, Pijpers (2017) describes the Sierra Leonean diamond economy as an "economy of dreams". He points out that dreams of a better future are one of the main motivators for marginalized young men to participate in artisanal diamond mining – standing in stark contrast to the hardship that characterizes the daily life of artisanal miners. To bridge the dissonance between the now and the imagined "not yet", miners continually invest in their social network by creating and nurturing mutually beneficial relationships to other market actors. As these relationships are primarily based on trust and artisanal miners are often in the weaker position within the power relationships that characterize the Sierra Leonean diamond market, they are highly vulnerable to betrayal. D'Angelo (forthcoming) investigates the relationship between diamond extraction and plural times, finding that, in comparison to other available economic strategies, the "fast money" that artisanal diamond miners aspire to gain is paradoxical: "while working to secure a better future, miners contribute to their own exploitation". This article aims to expand and specify the debate on the role of future imaginaries in artisanal mining through the concept of future expectations. As Koselleck (1979) points out, an expectation is more concrete than hope, which remains vague, as it is tied to history through experience.

## 4. Of rushes and ruin: a brief history of the sierra leonean diamond market

Prospectors of the Sierra Leone Geological Service first discovered diamonds in Sierra Leone in the early 1930s. In 1934, the British colonial authorities granted exclusive prospecting and mining rights to the *Sierra Leone Selection Trust Limited*. The beginning of significant industrial diamond production brought on a series of diamond rushes by Sierra Leoneans as well as migrants from the broader West African region (Van der Laan, 1965). The early periods of mining already see the development of many of the social structures that characterize the diamond market today: though (mostly) illegalized, artisanal mining is heavily supported by local chiefs who levy informal fines, surface rent and profit shares from artisanal miners.[6] Migrant miners and Lebanese businessmen – who would soon come to dominate the diamond trade – are socially integrated into mining communities through traditional mechanisms of accommodation of "strangers" (Van der Laan, 1975). The tributor-system – already in place in the artisanal gold mining sector – expands into the diamond sector (Zack-Williams, 1995). These market structures largely remain in place when the post-colonial government of Siaka Stevens nationalizes the SLST through creation of the National Diamond Mining Company (NDMC) in 1971 and partly legalizes African mining operations through the creation of the Cooperative Contract Mining Scheme in 1973. Both measures tighten direct government control over the diamond economy and enable Stevens to distribute mining rights to loyal chiefs in the mining regions and to his supporters in Freetown. The rule of Stevens sees an intensification of clientelist politics in what Reno (1995) terms the creation of the Sierra Leonean "shadow state": a state only in name whose facade serves a criminal elite to plunder the nation's resources for private and political advancement. The pathologies of Sierra Leonean statehood in combination with the negative externalities of donor-prescribed structural adjustment measures lead to a near total economic breakdown, characterized by mass unemployment, hyperinflation and shortage of basic commodities (ibid.). The origin of the subsequent civil war has often been attributed to a "crisis of the youth" (e.g. Richards, 1996; see also Keen, 2005; Fanthorpe and Maconachie, 2010). Excluded from access to patronage or state welfare and unable to create a modicum of livelihood security that would enable them to marry and start a family, young men from the rural and urban regions of Sierra Leone push into the mining regions to try their luck as (often illegal) artisanal miners. These marginalized young men, harboring resentment against the political establishment and the "rural gerontocracy" (Maconachie, 2017) will come to constitute the main recruitment base for the Revolutionary United Front (RUF) during the Sierra Leonean civil war, starting in 1991. The desire to become rich by participating in the RUF's diamond economy was one of the incentives driving young people to join the rebel forces during the eleven-year long war. Beyond marginalized youth, entrepreneurs willing to risk their personal security found ample opportunities for profit in the Sierra Leonean "blood diamond" economy. Since the end of the war, the formal diamond market has undergone extensive reforms, though many of its informal structures remain in place (Engwicht, 2017).

The contemporary Sierra Leonean diamond sector can be structured in three segments: Diamond extraction, trade and export. Diamond production comprises activities ranging from artisanal and small-scale mining – characterized by little if any use of technology, high work force, little profit and the prevalence of the tributor-system – to large scale, industrial mining operations. Artisanal mining operations comprise a variety of, sometimes overlapping, roles, such as landowner, license holder, gang leader, the financier (*supporter*), and diggers. These vary in their degree of knowledge of gemology, diamond deposits, negotiation techniques and their access to financial and social capital. Diggers are usually the most disadvantaged actors in any mining operation who reap the smallest share of the profits and are thus the least likely to substantially improve their situation. This is particularly true for legal diamond mining, while unlicensed operations are often – though not always – organized in a more egalitarian way, allowing miners to share their winnings equally (Engwicht, 2016a, 2016b). The fact that, in the absence of a license-holder and a formal supporter, the members of an unlicensed mining project often have direct control over the fruits of their labor, is often cited as an incentive to work outside of

[6] Interviews with illegal miners; Reno, 2003.

the formal framework.[7] Within the diamond trade, two categories of dealers can be broadly distinguished according to the scope and formality of their economic activity: Licensed dealers and various types of unlicensed dealers and brokers acting as middle-men between miners and legal buyers. Unlicensed diamond dealing ranges from petty trade to the brokering of highly valuable gems. The diamond export consists of a handful of established exporters – almost exclusively of Lebanese descent – and a high number of small companies that export only one or two shipments per year and often dissolve after a short period of time.[8] Within the diamond market, actors often appear in several roles – at the same time or over the course of their life-span. A diamond dealer might be also a miner, a broker or a supporter. Though supporters, license holders and dealers are often understood to be better off than the diggers they employ, this is not necessarily the case. Oftentimes, they are nearly as destitute and dependent on outside support as the miners they employ (Zack-Williams, 1995). While many have worked their way up in the diamond market, diamond money is easily lost, so that a once wealthy miner or broker may find himself a petty miner or trader again (Pijpers, 2017). This ephemerality of wealth and social standing is not unique to the diamond market, but characterizes Sierra Leonean society as a whole (Ferme, 2001).

## 5. Imagined riches: hope in the contemporary diamond economy

Precious minerals have been linked to dreams of a better future for centuries. The famous gold rushes in 19th century North America, the diamond rush surrounding the Kimberley mine in South Africa and the history of early diamond mining in Sierra Leone tell stories of imagined riches, entrepreneurial spirit and the willingness to undertake considerable risks in the hope of a better future. In Sierra Leone, stories about diamond wealth have become engrained into cultural memory. This is especially true in diamond-yielding regions. Many Sierra Leoneans have, at some point in their lives, worked in the mining industry, or have family members that became wealthy mining for diamonds. In addition to these personal experiences, stories about "big finds" are part of Sierra Leonean oral history. To this day, after decades of dwindling diamond deposits, unexpected finds still occur on a fairly regular basis. Their stories are widely circulated, especially among members of diamond mining communities. They fuel narratives of lucky miners and "ordinary people" who come into sudden and ostensibly life-changing wealth.[9] These narratives provide the background of experience that incentivizes members of mining communities to dig for diamonds – as a full-time or part-time occupation, formally or informally, in new or previously mined sites, and, on occasion, even inside their homes. Many miners draw on their personal experience of having found valuable gems when they first started mining, often decades ago as young men. As one miner explains:

> "I saw my brother doing the work, so I joined him. We got a diamond. A three carat diamond. They told me that they were selling the diamond and they brought me my share. I looked at it and I thought: 'Oh, that's very big money for me.' In the village my friends admired me because I brought a lot of money. After we washed, we got another diamond again."

The dream of becoming wealthy through diamond mining is not merely an illusion that forms in the minds of young men. It is legitimized through individual and collective experiences which account for the "historicity" of mining imaginaries (see Beckert, 2017).

Diamonds hold a symbolic value that transcends their material value (Beckert, 2016) in that they evoke images of bright futures (́dreams materializeд́, as ́DAngelo and Pijpers frame it in the introduction to this issue), not just in consumers, but also in market actors along the value chain. Even though the days where diamonds were plentiful and easy to find are long gone, the dream of "striking it rich" by finding one big diamond or the next big diamond is very much alive among market actors, some of them harboring utopian hopes of immense wealth. As one diamond miner and broker says:

> "Maybe next time you're coming, I have a big house, a big car. That's why diamond business is a millionaires' club. We want to become billionaires in Dollars."

Market participants and observers have often compared diamond mining to playing the lottery where the chances of winning are practically negligible, but the rewards so big that it still constitutes an attractive investment for many people (Smith, 2005). This is especially the case for an economically and politically marginalized population with no other opportunities for upward social mobility. In the absence of other life chances, investing time and money in diamond mining becomes a reasonable economic choice for impoverished rural and migrant populations. As one miner says: "It can lift someone from poverty". D'Angelo (2015) criticizes the interpretation of artisanal mining through the lens of the "casino economy" by pointing out that firstly, terms such as "luck" or "blessing" are conceptualized very differently in the Sierra Leonean diamond world than in the Anglo-American sense of the word and that in fact, Sierra Leonean miners leave very little to "luck". Secondly, the hard work of diamond miners shares little commonality with the ease and enjoyment that is usually associated with gambling. Even though miners themselves resort to these narratives to make sense of the uncertainty of diamond mining, he argues that their everyday practices disprove this depiction of their occupation.

Studies focusing exclusively on mining often overlook that the dream of future riches and the comparison to gambling is not unique to mining, but characterizes economic action in all segments of the diamond market. Dealers in licensed offices and unlicensed market places, brokers, Sierra Leonean-Lebanese and international exporters all tell stories of the search for the next big diamond. Market actors regularly liken diamond mining and dealing to an addiction. It prevents miners from moving on to other employment sectors. It drives dealers and exporters to keep their office open all days of the year and their phones turned on and in immediate reach at all hours of the day. It motivates even accomplished dealers and exporters to invest in big and small mining operations alike in the hopes of discovering unmined deposits. It makes everyone involved in the diamond market constantly invest in relationships of patronage that may prove useful to get a good deal when buying or selling diamonds. In this sense, the diamond market provides an excellent example of what Beckert (2016), drawing on William Sewell, calls the "restlessness" of modern capitalism. Everyone is constantly alert and engaged in market action, be it through mining, dealing or honing one's social network.

In the context of dire poverty, mining is sometimes described as an indicator of strength, capable of opening up a better future for those who persevere, as transpires from the statement of one miner:

> "We don't have money, even for to eat for a day. But you can't sit down without doing anything and say: 'I'm hungry'. So we do it really with that strong heart, a strong mind. Maybe we will meet luck."

The prospect of opening up alternative pathways – changing one's fate of a life in poverty – transcends the life of the miner and extends to future generations whose predicted life course might be changed through diamond wealth. In this sense, migration (from other rural

[7] Interviews with unlicensed miners.

[8] For a more detailed analysis of the structure of the Sierra Leonean diamond market (see e.g. Levin and Gberie, 2006; Engwicht, 2016a, 2016b).

[9] Examples would be the story of a woman who found a fancy diamond in Kono while digging her mother's grave (field interviews in 2013) or the widely publicized story of a pastor finding a 709 carat diamond in March 2017–one of the largest diamonds ever mined in Sierra Leone (Fofana, 2017a). The imaginative power that these stories hold is further illustrated by the fact that these findings are widely reported on, even in international newspapers.

parts of Sierra Leone, from the cities and from the broader West African region) to the mining areas has always been an important strategy for those seeking upward social mobility, ever since the beginning of diamond production in Kono (e.g. Van der Laan, 1965). As one miner and dealer from the Gambia explains:

> "What is best for me [is] to do diamond business. That is the way of getting fast money. Even the people after you they will never suffer if you get diamond. Only one. Not for them or for us, but for their children, their own better future, so that they can stand on their own feet and find whatever they want in this world."

Aspirations of actors in the Sierra Leonean diamond market range from dreams of immense wealth to more mundane hopes for livelihood improvement and upward social mobility (Pijpers, 2017; D'Angelo, 2018, forthcoming). Many miners formulate the hope of being able to use mining income to care for their family, to build a house or start a business – often one that would enable them to leave diamond mining. In the case of child miners, Bøås and Hatløy (2006) found that many hope to use their earnings to return to school. Others are already paying their school fees through mining income. Diamond mining as a strategy to garner start-up capital towards one's personal and professional advancement has extensive precedence in Sierra Leonean society. Many Sierra Leoneans have at some point in their lives participated in legal or illegal mining, which has allowed them to fund their own or their dependents' education, start a business or build a living (Fofana, 2017b). The luckiest have bought a house, a car or started a business with diamond income.[10] Within the diamond market, many accomplished dealers and miners have started out as teenage diamond diggers.[11] Unofficial market places – so called Open Yai markets, where smaller diamonds are illegally bought, sold and brokered – can provide a professional formation for young African men who, unlike the sons of Lebanese diamond traders, have few other opportunities of learning the trade. Diamond dealing at the Open Yai market is a highly cooperative endeavor. Dealers often evaluate and sell diamonds as a group and split the profits, providing ample opportunity for young people to learn the intricacies of the diamond trade. In addition, Open Yai markets often operate joint funds, providing a much needed security net for its members (Engwicht, 2016a). As with artisanal mining, the chances that a small-time diamond trader will one day become a wealthy dealer are small. Yet, many of today's established African dealers have learned the business of diamond dealing as young men at the Open Yai market.

Diamonds have been a source of upward social mobility for many Sierra Leoneans – especially in the past when many alluvial deposits were still untapped. However, the chance of gaining even moderate wealth through artisanal diamond mining is actually very meager (Pijpers (2017: 143) calls this the dreams-survival paradox), especially for those with little financial, social, cultural and symbolic capital (Bourdieu, 2002). In the rare case of a miner finding a valuable gem (in contrast to the small diamonds of the melee category[12] that constitute the bulk of Sierra Leone's reported diamond exports), they will often sell it at a very low profit. Dealers, who exceed them in diamond valuation negotiation skills, tell them that the goods are flawed and hence of low value. In this sense, the dream of diamond mining as an exit option from the hopelessness of rural poverty is treacherous. Even if miners are successful in finding valuable stones, the relationships of knowledge, power and patronage that characterize Sierra Leonean society and the diamond market prevent them from moving up in the world.

For many miners, small but frequent finds of melee diamonds – for example from re-mining the tailings of previous industrial mining operations (*overkicking*) – provide a small, but relatively predictable income. Others point to the profound uncertainty that characterizes diamond mining as a livelihood strategy. To cope with this uncertainty miners employ theories, plans and strategies as "instruments of imagination" (Beckert, 2016) to enhance their success rate. They engage in prospecting and rely on accounts of previous findings to arrive at educated guesses about the fertility of potential mining grounds. In addition, they engage in religious and occult practices to sway their luck (see D'Angelo, 2014, 2015). Uncertainty is often expressed through reference to religion, luck, and the idea that a diamond chooses its finder (Bøås, 2015). As one dealer explains:

> "[In] diamond business, you will not know everything about it. If God gives you a very good one, then you will become a very rich man. There is no secret behind it. If anybody tells you that there are other ways, other methods, it is false. If diamond loves you, you may be walking along the street, you will see one and you will take it. Diamond can do that."

## 6. Social relations and the shadow of the future in the sierra leonean diamond market

Apart from the material value of diamonds themselves, the social relationships that surround diamond production are a source of economic value that figures prominently in the calculations by market actors. As a result, the temporality of economic action in the Sierra Leonean diamond market is tied to the nature of social relationships in this market. The role of patronage relationships in Sierra Leonean society in general and in the diamond market in particular has been the subject of an extensive literature (e.g. Reno, 1995; Zack-Williams, 1995; Richards, 1996; Ferme, 2001; Maconachie, 2017). These studies reveal that in a social context, where large parts of the population live in extreme poverty and in the absence of a welfare state, one's social network is a vital resource for survival and economic and social advancement. Both the wealthy and the poor constantly invest in their network capital – their "wealth in people" (Bøås, 2015: 6) – with the aim of increasing their chances for future success. Patronage relationships in Sierra Leone are often exploitative and to the disadvantage of already marginalized populations. At the same time, they are often characterized by a high degree of social legitimacy and have proven difficult to weaken, as failed interventions into the diamond market have shown (Levin and Turay, 2008).

In the Sierra Leonean diamond market, patronage relationships often take the form of supporter-tributor-relationships (Zack-Williams, 1995). The supporter finances a mining operation and usually retains the right to a large share of all profits derived from it (typically seventy percent). Beyond this formal type of support, market participants entertain a wide range of less formal supporter-relationships with a variety of social actors inside and outside of the market (Levin and Gberie, 2006). These interactions are often not referred to as support, but as "friendship" or "a little help", the implication being that informal support incentivizes diggers to sell their findings to the helper without burdening them with the obligation they would have towards a formal supporter. As one miner explains:

> "If a person knows that you're a digger he will always try to be friendly to you so that if you find a diamond you carry it to him."

Miners navigate their social networks to maximize not only the profits from present sales, but also from future interactions. A diamond sold to the right buyer and at the right price today, can ensure that the miner can turn to the buyer in future times of need, with reference to past and future deals. In this sense, each transaction is an investment that transcends the present and creates social obligations vis-à-vis potential future scenarios. For this reason, many miners tend to sell small diamonds to unlicensed dealers that visit the mining sites, providing

[10] Interviews with miners and business-owners.

[11] Interviews with licensed and unlicensed dealers and brokers.

[12] In the system of rough diamond categorization, "melee" goods – gems weighing under 0.04 carat – constitute the smallest category of diamonds. In 2012 they made up 80 percent of reported gem quality diamond exports from Sierra Leone. (Government of Sierra Leone (GoSL), 2012)

instant cash. Larger and more valuable gems typically go to licensed and established dealers. On the other side of the value chain, prospective buyers must gain and keep their good standing with diamond sellers. This implies buying at least the first batch of diamonds at an above-market price. Only after a good relationship with a new "customer" has been established, can buyers start to drive a hard bargain. Establishing oneself as a good buyer also implies being constantly available and buying consistently. Buyers cannot close the office early or turn their phone off, because a potential seller finding them unavailable will immediately move on to the next buyer. One exporter describes the failure of international newcomers to the market as the inability to understand the rule that the seller needs to be able to turn diamonds into cash immediately:

> "You have to be the guy that buys. The whole point of buying diamonds is that [the] office is open 360 days a year, and you can always sell your diamonds there and you always get paid cash. That means that the money is always there."[13]

In the same vein, a diamond broker who had just offered his goods to an international buyer at a hotel in Kono and had been told to return the next day, after the investor had the chance to send photos of the gems to prospective buyers in Europe, explained that he would not go back to close the deal. This is noteworthy as selling to foreigners who do not know the rules and customs of the Sierra Leonean diamond market usually yields higher profits than selling to local dealers and exporters. In the view of the broker, however, the international buyer had proven himself untrustworthy by delaying the deal and outsourcing the decision to buy to an external actor. By treating diamond buying as a short-term transaction between independent parties, newcomers to the market fail to understand the temporal aspects of diamond dealing and the social fabric of the diamond market. For miners and brokers the decision between selling to international or local buyers is a decision between a short-term (sometimes substantial) profit and an (often uncertain) investment in their longer term financial security. In short, economic actors value every potential economic transaction not only with regard to the profits it yields at that moment, but also in relation to the potential benefits it may return in the future. Business and patronage relationships operate under the "shadow of the future" (Axelrod, 1984).

The future-orientation of the social relationships that characterize the Sierra Leonean diamond market creates an environment in which everybody is constantly alert, on the move and striving to improve their economic opportunities. Miners are prospecting for new mining pits and are visiting potential financiers in search of support that will allow them to continue mining. Middlemen pay daily visits to mining sites and hand out small money gifts to miners in an effort to incentivize them to sell their findings to them. Dealers and exporters spend a substantial part of their workday handing out cash, promising future support to miners, granting commission to brokers and honing their social network with a wide variety of market actors.

## 7. Conclusion

This article has sought to draw attention to the role of future orientations in artisanal mining. It argued that understanding miners' projections of possible futures is crucial for understanding their economic strategies in the present. In Sierra Leone, diamonds have been linked to imaginaries of a better future since the beginning of significant production. Stories of big finds and upward social mobility through diamond wealth are pervasive cultural narratives – legitimized through oral history, media accounts and personal experiences – that provide a powerful incentive to venture into mining. This is especially true for those who are otherwise deprived of upward social mobility and, correspondingly, Sierra Leoneans have perceived diamond mining as a means to improve their economic outlook for generations. Future-making strategies in the artisanal mining sector encompass the use of mining as a tool for moderate life improvement, as a professional formation, as the basis for a social security net and a source for credit within the framework of patronage relationships that make up the social fabric of the Sierra Leonean diamond market. At the same time, the dream of finding one big diamond is a common thread that runs through actors' stories in every section of the diamond market. It accounts for the dynamism of the diamond economy. Taking this dynamism and the associated expectations of a better future seriously is essential to understanding the motivations of artisanal miners. This holds implications for policy-interventions into mining communities. If artisanal mining is interpreted as a strategy that mainly fulfills immediate subsistence needs, it would seem plausible to concentrate on strengthening alternative means of subsistence – such as agriculture, which has long been a priority for development strategists (Hilson and Maconachie, 2017). While many miners assert that they would prefer being able to live off farming,[14] interventions that strive for re-agrarianization would be based on the misconception that subsistence without the opportunity of upward social mobility would be a preferred economic outcome for the majority of miners. Meanwhile, efforts that aim at formalizing artisanal mining tend to neglect the importance of patronage relationships, which are informal in nature, as a future-making strategy.

## Conflicts of interest

None.

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## References

Adam, B., 2003. Perceptions of time. In: Ingold, T. (Ed.), Companion Encyclopedia of Anthropology: Humanity, Culture and Social Life. Routledge, London, New York, pp. 503–526.
Adam, B., 2010. History of the future: paradoxes and challenges. Rethink. Hist. 14 (3), 361–378.
Axelrod, R., 1984. The Evolution of Cooperation. Basic Books, New York.
Bøås, M., Hatløy, A., 2006. Living in a Material World: Children and Youth in Alluvial Diamond Mining in Kono District. Sierra Leone. http://www.fafoarkiv.no/pub/rapp/515/515.pdf (Accessed: October 1, 2017).
Bøås, M., 2015. The Politics of Conflict Economies: Miners, Merchants and Warriors in the African Borderland. Routledge Abingdon.
Bürge, M., Cartier, L.E., 2011. Agriculture and artisanal gold mining in Sierra Leone: alternatives or complements? J. Int. Dev. 23 (8), 1080–1099.
Banchirigah, S.M., 2006. How have reforms fueled the expansion of artisanal mining? Evidence from sub-saharan Africa. Res. Policy 31 (3), 165–171.
Beckert, J., 2011. Imagined Futures: Fictionality in Economic Action. MPIfG Discussion Paper 11/8. Max Planck Institute for the Study of Societies, Cologne.
Beckert, J., 2016. Imagined Futures: Fictional Expectations and Capitalist Dynamics. Harvard University Press Cambridge, MA London.
Beckert, J., 2017. Die Historizität Fiktionaler Erwartungen. MPIfG Discussion Paper 17/8. Max Planck Institute for the Study of Societies, Cologne.
Bell, W., 1996. The sociology of the future and the future of sociology. Sociol. Perspect. 39

[13] This contests the notion of the utterly powerless miner. While buyers take advantage of miners in a myriad of ways, the seller is in possession of a rare and highly sought after good that other market actors will go to great lengths to acquire.

[14] Interviews with diamond miners.

(1), 39–57.
Bolay, M., 2014. When miners become foreigners: competing categorizations within gold mining spaces in Guinea. Res. Policy 40, 117–127.
Bourdieu, P., 1979. Algeria 1960. Cambridge University Press, Cambridge.
Bourdieu, P., 2002. The forms of capital. In: Biggart, N.W. (Ed.), Readings in Economic Sociology. Blackwell Publishers, Oxford, pp. 280–291.
Cuvelier, J., 2017. Money, migration and masculinity among artisanal miners in Katanga (DR Congo). Rev. of Afr. Polit. Econ. 44 (152), 1–16.
D'Angelo, L., 2014. Who owns the diamonds? the occult eco-nomy of diamond mining in Sierra Leone. Africa 84 (2), 269–293.
D'Angelo, L., 2015. 'Diamond mining is a chain': luck, blessing, and gambling in Sierra Leone's artisanal mines. Crit. Afr. Stud. 7 (3), 243–261.
D'Angelo, L., 2018. forthcoming). diamonds and plural temporalitiess. articulating temporal encounters in Sierra Leone's mines. In: Pijpers, R.J., Eriksen, T.H. (Eds.), Mining Encounters: Extractive Industries in an Overheated World. Pluto Press, London.
Engwicht, N., 2016a. After Blood Diamonds: The Moral Economy of Illegality in the Sierra-Leonean Diamond Market. MPIfG Discussion Paper 16/9. Max Planck Institute for the Study of Societies, Cologne.
Engwicht, N., 2016b. Illegale Märkte in Postkonfliktgesellschaften: Der Sierra-leonische Diamantenmarkt. Campus Verlag Frankfurt/Main.
Engwicht, N., 2017. We are the genuine people: legality and Legitimacy in the Sierra-Leonean diamond market. In: Beckert, J., Dewey, M. (Eds.), Everything Legal? Interfaces Between Legality and Illegality in Markets. Oxford University Press, Oxford, pp. 198–217.
Fanthorpe, R., Maconachie, R., 2010. Beyond the 'Crisis of youth'? mining, farming, and civil society in post-war Sierra Leone. Afr. Aff. 109 (435), 251–272.
Ferguson, J., 1999. Expectations of Modernity: Myths and Meanings of Urban Life on the Zambian Copperbelt. University of California Press, Berkeley.
Ferme, M.C., 2001. The Underneath of Things: Violence, History, and the Everyday in Sierra Leone. University of California Press, Berkeley London.
Ferry, E.E., Limbert, M.E., 2008. Introduction. In: Ferry, E.E., Limbert, M.E. (Eds.), Timely Assets: The Politics of Resources and Their Temporalities. School for Advanced Research Press, Santa Fe, pp. 3–24.
Ferry, E.E., 2008. Rocks of ages. temporal trajectories of mexican mines substances. In: Ferry, E.E., Limbert, M.E. (Eds.), Timely Assets: The Politics of Resources and Their Temporalities. School for Advanced Research Press, Santa Fe, pp. 50–73.
Fofana, U., 2017a. Sierra Leone Pastor Discovers 706-carat Diamond. http://www.reuters.com/article/us-leone-diamonds-idUSKBN16N2LC (Accessed 1 October 2017).
Fofana, U., 2017b. How I Funded My Studies by Digging for Sierra Leone Diamonds. http://www.bbc.com/news/world-africa-39478462 (Accessed 1 October 2017).
Government of Sierra Leone (GoSL), 2012. Gold and Diamonds Exports Report 2012. Government of Sierra Leone, Freetown (Unpublished Report).
Hilson, G., Maconachie, R., 2017. Formalizing artisanal and small-scale mining: insights, contestations and clarifications. Area 49 (4), 443–451.
Hilson, G., Hilson, A., Maconachie, R., McQuilken, J., 2017. Artisanal and small-scale mining (ASM) in sub-saharan Africa: re-conceptualizing formalization and 'illegal' activity. Geoforum 83, 80–90.
Hilson, G. (Ed.), 2006. Small-Scale Mining, Rural Subsistence and Poverty in West-Africa. Practical Action Publishing, Rugby Warwickshire.
Hilson, G., 2010. Child labour in african artisanal mining communities: experiences from northern Ghana. Dev. Change 41 (3), 445–473.
International Labour Organization (ILO), 1999. Report for Discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale Mines. International Labour Organization, Geneva.
Keen, D., 2005. Conflict and Collusion in Sierra Leone. James Currey, New York.
Kelly, J.T.D., King-Close, A., Perks, R., 2014. Resources and resourcefulness: roles, opportunities and risks for women working at artisanal mines in South Kivu, Democratic Republic of the Congo. Futures 62 (A), 95–105.
Koselleck, R., 1979. Vergangene Zukunft: Zur Semantik Geschichtlicher Zeiten. Suhrkamp Frankfurt am Main.
Lanzano, C., this issue. Gold digging and the politics of time. Changing timescapes of artisanal mining in West Africa. The Extractive Industries and Society. Special Issue edited by ĎAngelo, L. and Pijpers, R.J. Mining Temporalities: Extractive Industries and the Politics of Time.
Levin, E., Gberie, L., 2006. Dealing for Development? A Study of Diamond Marketing and Pricing in Sierra Leone. http://www.ddiglobal.org/contentDocuments/2006-04%20ddi-dealing%20for%20development-summary-eng.pdf (Accessed 1 October 2017).
Levin, E., Turay, A.B., 2008. Artisanal Diamond Cooperatives in Sierra Leone: Success or Failure? http://www.ddiglobal.org/login/resources/policy-brief-june-2008-english-version.pdf (Accessed 1 October 2017).
Limbert, M.E., 2008. Depleted futures. anticipating the end of oil in Oman. In: Ferry, E.E., Limbert, M.E. (Eds.), Timely Assets: The Politics of Resources and Their Temporalities. School for Advanced Research Press, Santa Fe, pp. 25–50.
Lujala, P., Gleditsch, N.P., Gilmore, E., 2005. A diamond curse? Civil war and a lootable resource. J. Confl. Resolut. 49, 538–562.
Maconachie, R., Binns, T., 2007. 'Farming miners' or 'mining farmers'?: diamond mining and rural development in post-conflict Sierra Leone. J. of Rural Stud. 23 (3), 367–380.
Maconachie, R., Binns, T., Tengbe, P., Johnson, R., 2006. Temporary labour migration and sustainable post-conflict return in Sierra Leone. GeoJ 67 (3), 223–240.
Maconachie, R., 2017. Navigating the intergenerational divide?: youth, artisanal diamond mining, and social transformation in Sierra Leone. The Extr. Ind. and Soc. 4 (4), 744–750.
Miyazaki, H., Swedberg, R. (Eds.), 2017. The Economy of Hope. University of Pennsylvania Press, Philadelphia.
Miyazaki, H., 2006. Economy of dreams: hope in global capitalism and its critiques. Cult. Anthropol. 21 (2), 147–172.
Partnership Africa Canada, Global Witness, 2004. Rich man, poor man. development diamonds and poverty diamonds: the potential for change. The Alluvial Diamond Fields of Africa. . https://www.globalwitness.org/en/archive/rich-man-poor-man/ (Accessed 1 October 2017).
Peet, R., Watts, M., 1996. Liberation Ecologies Environment, Development, Social Movements. Routledge London, New York.
Pijpers, R., 2011. When diamonds go bust: contextualizing livelihood changes in rural Sierra Leone. J. Int. Dev. 23 (8), 1068–1079.
Pijpers, R., 2014. Crops and carats: exploring the interconnectedness of mining and agriculture in Sub-Saharan Africa. Futures 62 (A), 32–39.
Pijpers, R., 2017. 'I want to be a millionaire': Survival, trust and deception in Sierra Leone's economy of dreams. In: Rooij, V.A. (Ed.), Anthropological Knowledge on the Move. Pallas Publications, Amsterdam, pp. 135–153.
Reno, W., 1995. Corruption and State Politics in Sierra Leone. Cambridge University Press, Cambridge.
Reno, W., 2003. Political networks in a failing state: the roots and future of violent conflict in Sierra Leone. Int. Polit. und Ges. 2, 44–66.
Richards, P., 1996. Fighting for the Rain Forest: War, Youth & Resources in Sierra Leone. James Currey, Oxford.
Rustad, S., Østby, G., Nordås, R., 2016. Does artisanal mining increase the risk of sexual violence? Qual. Prim. Care 24 (2), 77–80.
Sánchez-Vázquez, L., Espinosa-Quezada, M.G., Eguiguren-Riofrio, M.B., 2016. Golden reality or the reality of gold Artisanal mining and socio-environmental conflict in Chinapintza, Ecuador. Extr. Ind. Soc. 3, 124–128.
Schulz, M.S., 2015. Future moves: forward-oriented studies of culture, society, and technology. Curr. Soc. Monogr. 63 (2), 129–139.
Sewell, W.H., 1992. A theory of structure duality, agency, and transformation. Am. J. of Soc. 98, 1–29.
Smith, A., 2005. An Inquiry into the Nature and Causes of the Wealth of Nations. An Electronic Classics Series Publication. https://eet.pixel-online.org/files/etranslation/original/The%20Wealth%20of%20Nations.pdf (Accessed 1 October 2017) [1776].
Smith, J.H., 2011. Tantalus in the Digital Age Coltan ore, temporal dispossession, and movement in the Eastern Democratic Republic of the Congo. Am. Ethnol. 38, 17–35.
Van der Laan, H.L., 1965. The Sierra Leone Diamonds: An Economic Study Covering the Years 1952–1961. Oxford University Press, London.
Van der Laan, H.L., 1975. The Lebanese Traders in Sierra Leone. Mouton, Paris.
Verbrugge, B., 2016. Voices from below: artisanal- and small-scale mining as a product and catalyst of rural transformation. J. Rural Stud. 47, 108–116.
Walsh, A., 2003. Hot money and daring consumption in a northern malagasy sapphire-mining town. Am. Ethnol. 30 (2), 290–305.
Walsh, A., 2012. After the rush: living with uncertainty in a malagasy mining town. Africa: J. Int. Afr. Inst. 82 (2), 235–251.
Werthmann, K., 2009. Working in a boom-town: female perspectives on gold-mining in Burkina Faso. Res. Policy 34, 18–23.
Weszkalnys, G., 2014. Anticipating oil: the temporal politics of a disaster yet to come. Soc. Rev. 62, 211–235.
Zack-Williams, A., 1995. Tributors, Supporters and Merchant Capital: Mining and Underdevelopment in Sierra Leone. Ashgate Publishing Company, Aldershot.

**Nina Engwicht** is a post-doctoral researcher at the Peace Academy Rhineland-Palatinate at the University of Koblenz-Landau, Germany. In her work she focuses on natural resource economies in the transition from war to peace.