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## **DIAMONDS ARE FOREVER: HOW MYTHS CAN CONTRIBUTE TO LAND DEGRADATION BY SMALL-SCALE DIAMOND MINING IN AKWATIA, GHANA**

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### **Abstract**

*Conventional literature on land degradation has largely focused on factors such as logging, farming, mining and construction to explain the causes of this phenomenon, paying little attention to what motivates the decisions behind these factors particularly in poor countries. One of the factors that is least explored but promises to shed light on our understanding of and tackling land degradation is myth and how myths motivate decisions made on the exploitation of land resources that result in land degradation. Using qualitative approaches in the study of land degradation caused by small-scale mining operations in Akwatia, we found that the myth that diamonds regenerate and the soul of the dead bring forth diamonds largely contributes to re-mining of already mined sites and reclaimed pits leading to extensive land degradation. Scientific research into these myths and education of the small-scale miners are important in addressing land degradation.*

**Key words:** *Small-scale Mining, Diamonds, Land degradation, Myths, Ghana*

### **Introduction**

Many scholars have raised concerns about the threat of land degradation to global food security and the survival of the present and future generations (Timberlake, 1987; Gibson *et al.*, 2000; Wright and Nebel, 2002). For Africa, Timberlake (1987) has noted that decades of over-cultivation and overgrazing have contributed to land degradation on the continent and reduced the continent's ability to grow food.

Among the causes of land degradation are mining, farming, logging and fuel wood or charcoal production (Royal Tropical Institute, 1990; IFAD, 2013). In the case of Ghana, gold and diamond mining are said to be the major causes of land degradation (Nsiah-Gyabaah, 1994; Hilson, 2002). The focus of this paper, however, is on small-scale mining of diamonds, popularly referred to as

*galamsey* operations, in Akwatia as this is the major cause of land degradation in the community (Nsiah-Gyabaah, 1994). The term *galamsey*, which is a corrupted form of “get them and sell” (GTV, 2013), has been used interchangeably with small-scale mining throughout this paper.

Akwatia, a mining community in the Kwaebibirem district of the Eastern Region of Ghana, is noted for *galamsey* operations and the result of the *galamsey* activities are extensive degradation of the land. Already mined sites are re-mined several times due to two myths: a) diamonds regenerate and b) the souls of the dead bring diamonds to mined sites where fatal accidents occur.

Apart from synthetic diamonds that can be manufactured (AWDC, 2011), Science suggests that natural diamonds can be depleted because they are non-renewable

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(Johnson, 2002; AWDC, 2011). Given the claims in the literature that natural diamonds are exhaustible and non-renewable, what might explain why miners re-mine several times and find diamonds in areas that have already been mined? How can these myths be incorporated into policies and programmes to reclaim degraded mined sites to make them useable?

### ***Mining and Land Degradation: An Overview of the Literature***

There seems to be a consensus among environmentalists that the mineral extraction industry has caused heavy damage to the land in many poor countries and the role of mining appears to be substantial among the various causes (Nsiah-Gyabaah, 1994; Akabzaa, 2000). Mining is claimed to be the major cause of land degradation in Indonesia where 30 square kilometres of forest is said to be dead, and that forest destruction is expected to spread to at least 130 square kilometres annually over the life of the mine (IIED, 2013). Similarly, in Sierra Leone, India, Nigeria, Tanzania, Zimbabwe and Colombia mineral extraction has led to large areas of land becoming unproductive (Metha, 2002; Mwakaje, 2012; Zacheus *et al.* 2012).

In Ghana, over the past three decades, large forest areas are feared to have been destroyed as a result of gold, diamond and bauxite mining (Parren and De Graft, 1995). Economic reforms in the 1980s led to the revamping of the mining sector. The results have included a very active mining sector with heavy damage to evergreen forest zone in areas such as the Neung North Forest Reserve, the Aflao Hills, Afewa, Cape Three Point, Akwatia, Opon Mansi, Tanooffinso, Atew and Tano-Offin (Akabzaa, 2000; GTV, 2013). This evidence suggests that mining activities cannot be said to have been undertaken in a sustainable manner.

The claim that unsustainable mining can be a threat to land, forests and vegetation cover has contributed to the call for

sustainable mining practices. Sustainable mining is when mining activities do not jeopardize the ability of the earth to adequately provide for the needs of both the present and future generations (Miller, 2003; Wright and Nebel, 2002). The idea of sustainability has shaped much of public policy towards land resources with organizations such as the United Nations Development Programme (UNDP) and the World Commission on Environment and Development (WCED) championing the cause (WCED, 1987; UNDP, 1991).

Sustainable mining is therefore used in this paper to mean reclaiming mined sites for farming, housing, road construction and other development. Given this definition, it follows that re-mining of reclaimed sites defeats the principles of sustainability. Existing myths around diamonds, however, encourage re-mining by *galamsey* operators, thereby defeating the principle and purposes of sustainable mining. But the myths held by the *galamsey* operators appear to be supported by how certain renowned institutions have perceived diamonds. For example, and Company Inc. and Antwerp World Diamond Centre (AWDC) in their Diamond Industry Report for 2011 noted that: Among all the major natural resources on earth, diamonds have often been considered the most mysterious (AWDC, 2011).

It can be said that how diamonds are perceived are based on decisions of individuals and groups of people who are in the position to influence many. It follows then that many of these decisions to obtain diamonds are motivated by a number of factors such as myths surrounding this mineral resources.

### ***What are Myths and do they Matter?***

Many scholars have defined myths as a recurring theme that incorporates information about cultural standards (Dainton, 1993). Nunn (2003) has defined it as 'traditional oral tales.' For Hughes and Tight (1995), myth is

‘an idea that may or may not have validity, but which many people believe in.’ According to Dainton (1993), the word myth is generally perceived to be similar to untruths, and that myths usually contain false information.

Myths as used in this paper are all the factors that influence how a group of people view the world around them that embodies their culture, norms and beliefs irrespective of whether these are correct. The literature abounds with empirical evidence to show that myths matter in the lives of many societies and groups of people (Nunn, 2003; Schweingruber and Wohlstein, 2005; Jianxiong, 2009). For example a view of migration and its impacts often focused on the destinations of migrants has established certain myths around migration over the years. These myths have generally been accepted as truths in public discourse and even in the policy arena although they have not been adequately proven through the rigours of scientific studies. Among these myths that are questioned by scholars such as

De Haas (2005) are that ‘we live in an age of unprecedented migration, that poverty and misery are the push-factors to labour migration, development policies; development assistance and trade liberalization are the solutions to migration...’ Although these can be said to be myths (De Haas, 2005), they tend to shape many foreign policies of migrant receiving societies.

Perhaps the endurance of myths in many societies and cultures may be due to the fact that in some instances, ideas and issues that are labelled as myths may have some element of truth and validity in them but the problem arises when their mythic qualities tend to be exaggerated ‘above everyday considerations’ (Hughes and Tight, 1995). In spite of this, one can conclude that whether myths are viewed as realities or mere fabrications, they influence how societies behave and relate to the world around them.

**Study Context and Methodology**

Akwatia is about 15 km away from Kade, capital of Kwabibirem district, and 165 km away from Accra, national capital (Figure 1).

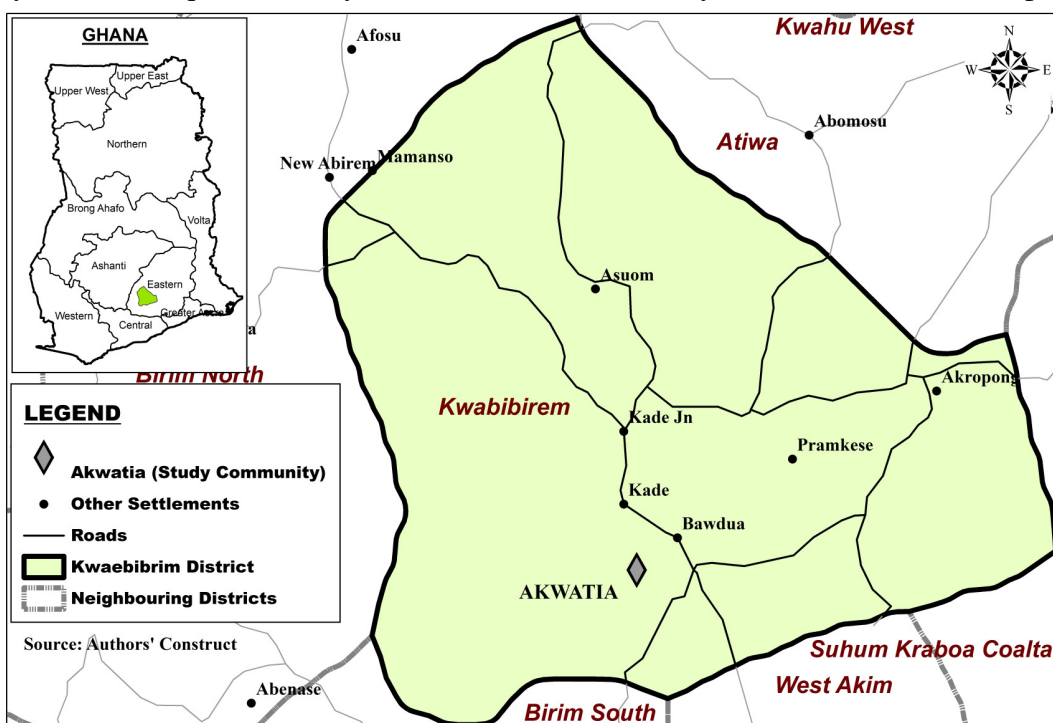


Figure 1: Location of Akwatia

The Ghana Consolidated Diamonds Company (GCDC) is the only company with statutory mandate to mine diamonds in Akwatia and it engages in surface mining mainly. The GCDC has been mining diamonds for the past 8 decades. Both legal and illegal small-scale mining have also been going on over this period.

A number of important areas have been mined. For example, an area which has been earmarked by the Kwaebibirem District Assembly for Lorry Park has been mined (Plate 1).



Plate 1: Proposed Lorry Park that has been mined

In addition there has been extensive damage done to other infrastructural facilities such as roads and houses in the community. About 80% of roads have been mined. Playing fields of the Anglican and Presbyterian schools have all been mined; exposing school children to dust and mud pollution and leaving them with no playgrounds for recreational activities (Plate 2).



Plate 2: A section of the Boadua to Akwatia road degraded including nearby building

Foundations of 60% of buildings along the 7km Boadua to Akwatia road through the St. Dominic's Hospital have also been mined. The Royal Cemetery has equally been destroyed and one can find human skeletons scattered over the cemetery exposing residents to the outbreak of epidemics. The worse of this is that the Birim River (the only source of water supply to over 150 communities including Akwatia) is drying up due to continuous mining of its basin (Plate 3).



Plate 3: Mining in the Birim River basin

Agricultural activities are completely dying out as farm sizes are reducing and areas, which have been mined, become unsuitable for farming. According to officials at the Kwaebibirem District Directorate of Agriculture farm sizes have reduced and output levels for two major crops: cassava and maize have reduced.

The highest political authority in Akwatia area is the Kwaebibirem District Assembly (KBDA). In line with Ghana's decentralisation policy, general development control come under the jurisdiction of the KBDA. It is also the responsibility of the KBDA to ensure that the GCDC, reclaims mined sites (Republic of Ghana, 1993). According to the laws regarding mining in Ghana, the GCDC is solely responsible for reclaiming mined pits (Republic of Ghana, 1986; 1989). The Akwatia Traditional Council (ATC) is the traditional authority that is the custodian of the Akwatia lands.

Galamsay mining in the area is done both on river bed and on dry land. There are two kinds of *galamsay* operators. These are the *tributers* who purchase parcels of land from the GCDC for re-mining, and the *tenders* who rent concessions from the GCDC to re-mine. The *tributers* and *tenders* are the actual actors on the ground, who directly engage in the *galamsay* operations. It is after when the GCDC has completed mining an area that such a site is either sold out to the *tributers* or rented out to the *tenders*. This paper is therefore focused on the *tributers* and *tenders* who do the small-scale mining.

The case study method was used for the study. This is a participatory type of research approach with emphasis on the collection of qualitative data (Bulmer, 1991; Creswell, 1994). We lived in the community over a 3-month period to observe how the *galamsay* activities were carried out and had discussions with the operators. Our interest was on the process and how small-scale

miners make sense of their daily experiences and their interpretation of the world around them. We also had key informant interviews with high profile officers from the GCDC, the KBDA, the Environmental Protection Agency (EPA) in the Kwaebibirem district and the ATC. Twenty community members aged over 60 years who have retired from *galamsey* operations were also randomly selected and interviewed. In addition, focus group discussions were held with the *galamsey* operators. Finally, five mining sites were randomly selected from 20 mining sites and for each of the sites, 50 *galamsey* operators were randomly selected for interviews. The data is mainly in the form of stories and narratives that describe the world-view and the experiences of the miners. Although the data is largely qualitative, we employ quantitative means in the form of percentages to present data on the responses of the interviewees.

## **Results and Discussions**

### ***Myth 1: Diamonds are spirits and they regenerate***

The myth that diamonds are never depleted and that they regenerate was strong among small-scale miners with evidence to suggest that this myth was widespread and enduring. Ninety-five percent of the *galamsey* operators held this view. It cuts across the entire spectrum of *galamsey* operators, irrespective of social and demographic characteristics: age, sex, literacy, migration, religion and ethnicity. Out of the 250 *galamsey* operators interviewed, the 20-64 age group constituted 48% followed by those who were beyond 65 years (37%) and those who were between 12-19 years of age, who also constituted 15%. The proportion of males and females were 65% and 35% respectively. About 45% of them could read and write and 52% were Ghanaians. Seventy percent were Christians, 25% were Muslims and 5% were other

religions. For each of the various socio-demographic categories, many of them held both myths. These were held by over 80% of those aged between 20-64 years, 70% of those aged over 65 years, and 60% of the 12-19 year group. About 90% of the males believed in these myths whilst 70% of females did so. Over 50% of the Christians, Muslims and other religions had no doubts in their minds about these myths.

The study revealed that these myths contributed to re-mining of already mined sites such as *Mpotompotom* and the Anglican school park about 15 times between 1980 and 2010. In all these instances of re-mining these sites, *galamsey* operators claimed to be making huge profits. For example, a *tributer* who owned a concession in the *Mpotompotom* area, a site claimed to have rich deposits of diamonds explained that: This is the 10<sup>th</sup> time we are mining this site. Diamonds are spirits so they cannot be said to be exhaustible. We are a gang of 12 members and we make between GH¢4500 (US\$ 2000) and GH¢5000 (US\$ 2300) a month (A *tributer*, Akwatia).

Our observation of the activities of five gangs over 20 working days in sites that had been re-mined not less than five times revealed that each gang made a daily average of five carats of diamonds which cost between GH¢220 and GH¢230 (US\$90 and US\$100). This finding supports the claim that re-mining was economically viable.

Another *galamsey* worker's view was even more profound when he claimed that the Birim River is a spirit and the diamonds are her *children*. He stated this as follows: The diamonds are the children of the Birim River. Would you say that the Birim River which is a spirit will stop giving birth? (Small-scale miner, Kade).

Finding diamonds in the same area in the Birim River bed and the river basin might be due to the fact that diamond-bearing alluvium is transported from upstream. This river

activity is well documented in the physical Geography literature (McLaren and Singer, 2008; Zhong-Xin and Shi-Kui, 2008). It is also possible that the miners are not able to extract all the diamonds in one mining expedition so that some of the 'escaping' precious stones remain only to be 'captured' later as regenerated diamonds. But the lack of *galamsey* operators' understanding of these processes might explain why mythological explanations become important as was corroborated by 90% of the community members aged 60 years who have retired from *galamsey* operations. Senior officers from the KBDA, the GCDC and the EPA indicated their awareness of this myth and intimated that it largely explains why *galamsey* operators re-mine already mined sites.

In spite of their awareness of this myth, 60% of all the senior officers from the GCDC, ATC, KBDA, and the EPA interviewed were sceptical about the veracity of this claim. For these officers diamonds are exhaustible and that all the deposits can be depleted someday in the future.

But if diamonds can be depleted, what could explain the fact that *galamsey* operators find diamonds at sites that have already been mined by the GCDC, which uses superior mining technology? This question is complicated by the fact that small-scale miners have been using practically the same indigenous methods of mining for over eight decades. One would expect that the modern mining technology employed by the GCDC should make it difficult for any diamonds to be left behind to make re-mining a viable venture for *galamsey* operators, but this is not the case. It is of no surprise then that a number of attempts at reclaiming the degraded sites by the GCDC have faced challenges as *galamsey* operators work in these areas at night, a practice commonly referred to as *smuggle* among small-scale miners.

According to a Five-Year Reclamation Plan prepared by GCDC, examples of areas that were reclaimed but have been re-mined include Abosrochma (2.4 hectares), Beduawana (2.6 hectares), Damposi (1.8 hectares), Alafia (1.0 hectares) and Jamiakwa (0.2 hectares). The reclamation projects involved re-vegetation and refilling these sites with the overall aim to return these mined areas as nearly as possible to their optimum economic use.

To re-mine already mined sites and find diamonds point to whether there are some elements of truths rather than falsehood in this myth that diamonds regenerate. Whether the myth has basis or not, the critical issue is that it plays a very important role in how *galamsey* operators view their world and live it. This conforms to the general perception of myths that although they may not have validity of truths in them, they shape the lives of many societies (Jianxiong, 2009).

#### ***Myth 2: The spirits of the dead enrich sites with diamonds***

The second myth held by all the small-scale miners interviewed on individual level and by the focus groups was that the spirits of the dead tend to enrich already mined sites with diamonds. This is in relation to the spirits of colleague small-scale miners who lose their lives through mining-related accidents. Our interviews revealed that accidents and deaths were common with small-scale miners. According to records at the Akwatia Divisional Office of the Ghana Police Service, which were corroborated by the district office of the National Disaster Management Organisation (NADMO), the ATC and the leadership of the small-scale miners, five *galamsey* operators got drowned in the Birim River at Adankrono in 1998, 35 lost their lives in Akwatia between 1990 and 2005, and about 22 also died in three sites when their pit collapsed. Both the police and NADMO officers had the view that the figures may be high as many of the accidents

are not reported. The consensus was that all the accidents sites became popular sites for the miners because they claim to find diamonds there. For example, a *tender* in Adankrono claimed that:

The dead understands our plight here so their spirits bring diamonds back to us. It is common to find areas that accidents occur yielding so much diamonds (*Tender*, Adankrono).

Eighty percent of the retirees from *galamsey* corroborated this claim and a high profile clan leader in the Akwatia Traditional Council noted that:

We at the traditional council are called upon to pour libation at accident sites and we plead with the souls of the dead not to turn their backs on their colleagues. They listen to our pleas and such areas become rich in deposits (A clan head, ATC)

Although all the senior officers from the GCDC, KBDA, and the EPA had the view that there was no truth in this claim, they noted that it was what motivates small-scale miners to go back to accident sites. According to the officers from the GCDC, the EPA, and even the *galamsey* operators, these accidents are largely due to landslides, flooding, and mudflows; and areas that experience any of these are likely to have recurrence in the future.

This second myth may not have any basis, but it is this same myth that accounts for the mining and re-mining of the royal cemetery. As there was no evidence that the cemetery had been mined before it was used to bury dead royals, it may be argued that the cemetery was still *virgin* land and it may have deposit of diamonds. In the case of accident sites becoming attractive to mine, an officer from the Environmental Protection Agency (EPA) intimated that:

Mudflows and landslides may carry diamond deposits and travel with them. As these collect in the pits where accidents occur it is likely to find diamonds in such areas. This

does not mean it is the dead who brought the diamonds (Senior officer, EPA, Kade).

What this suggests is that *galamsey* operators' inability to connect the *virgin* cemetery land to diamond deposits and mudflows with diamonds to their diamond find made them to employ this myth to interpret and cope with the phenomenon. Perhaps this is what Bajon (1982) and Hughes and Tight (1995) meant when they suggested that myths enable a group of people to interpret issues beyond the human understanding and be able to live with them.

### **Conclusion**

Part of the human nature is to fill in the gaps in knowledge that cannot be rationally answered through scientific experimentation and observation. When we are unable to employ logic and scientific explanation to understand a phenomenon, the most appropriate alternative is to adopt mythological explanations with reference to beings and powers and even events to explain situations. The myths that diamonds regenerate and that the dead bring diamonds are likely to endure and influence perceptions and behaviours of the *galamsey* operators towards the land in Akwatia.

### **Recommendations**

#### ***Scientific investigation into why mined areas continue to produce diamonds***

A scientific study to explore why mined sites continue to yield diamonds seems useful and urgent. Such a study has the promise to show if there are any elements of truths in these claims to help increase our understanding of the world around us. This study should be undertaken with the involvement of all the stakeholders in the diamond business in Akwatia. Their involvement in the process is likely to make them accept findings that may point to falsehood in the myths to help them live with such a reality. Their approach to mining may



change and consequently support reclamation policies.

### **Education of the galamsey operators**

Claims that the souls of the dead enrich already mined sites with diamonds need to be addressed through education. The fact that the cemetery is a virgin land implies that it has deposits of diamonds but not necessarily the work of the dead. In addition, the causes of landslide and mudflows that result in accidents and deaths need to be understood by the *galamsey* operators. The possibility of the processes of landslide being laden with diamonds also needs to be explained to the miners to help them psychologically adapt to the phenomenon.

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