



Compensation for land use deprivation in mining: an analysis of the laws and practices relating to land use deprivation compensation in Ghana's mining sector

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ABSTRACT

This article examines the laws and valuation methods that valuers apply in assessing compensation for land use deprivation in Ghana's mining sector using two mining companies as case studies. We argue that analysing the valuation techniques applied in assessing compensation for land use deprivation in the context of current legal provisions facilitates a better understanding of the issues fuelling community dissatisfaction with compensation awards. Data produced through document analysis and interviews with 39 farmers, government officials, chiefs, private valuers, and officials of Newmont Goldcorp's Ahafo Mine and Asanko Gold Ghana Limited were analysed in the context of the current legal framework for expropriation. Interview transcripts were coded based on themes and analysed using the constant comparison method. The findings reveal that the valuation techniques for assessing compensation for land use deprivation disregard fundamental compensation principles outlined under law. The study also exposes the weaknesses in the valuation techniques in assessing compensation for farmlands that mining may impair permanently. Towards ensuring fairness in compensating mining-impacted farmers, this study recommends additional legal directives to streamline the methods for assessing compensation for land use deprivation. The consequences of the limitations in the valuation methods on expropriated farmers are also discussed.

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1. Introduction

Statistics from the International Council on Mining and Metals (2012) indicate that since 2000, Ghana's mining output, predominantly gold, has grown by 290%, representing over 25% of total export volumes. A consequence of the rise in mining sector investments has been the increased exercise of the power of eminent domain by successive governments to expropriate private and communally held interests in land and attached assets for mining.

However, consistently, mine-affected communities have complained that the compensation paid in lieu of the rights in land acquired for mining is inadequate to restore affected persons to their pre-acquisition status. Over the years, there has been a growing body of literature on expropriation and compensation in Ghana. Some studies have

analysed compulsory acquisition practices in Ghana (Larbi et al., 2004; Larbi, 2008, September 9-10; Anim-Odame, 2011, April 13-16; Adu-Gyamfi, 2012; King & Sumbo, 2015). These studies stressed the need to overhaul existing procedures given the increasing incidence of expropriation related conflicts and social unrest in mining host communities. Research has also established the links between the growth of Ghana's mining sector and the increase in expropriation related social unrest in mining communities (Hilson, 2002; Hilson & Nyame, 2006; Owusu-Koranteng, 2010). According to Twerefou, Tutu, Owusu-Afriyie, and Adjei-Mantey (2015), the conflicts relating to expropriation and compensation for mining are attributable to the mining sector reforms under the Economic Recovery Programme, which prioritised economic growth through mineral exports without giving much consideration to the impacts of such policies on mining host communities. These findings have been corroborated by administrative and scholarly articles highlighting the increasing poverty levels in mining host communities (Aryeetey et al., 2001; Akabzaa, 2009; Tenkorang, 2016; Adonteng-Kissi, 2017; Commission for Human Rights and Administrative Justice, n.d).

Although compensation for the deprivation of land use (DLU) is a novel head of claim introduced into Ghana's legal framework under the Minerals and Mining Act, 2006 (Act 703), there have been limited studies on the valuation techniques applied in assessing claims. Ayitey, Kidido, and Tudzi (2011) has confirmed this assertion and noted that what constitutes the deprivation of the use of land and the valuation principles that valuers must apply in assessing such claims remain unclear. A related study conducted by Kidido, Ayitey, Kuusaana, and Gavu (2015) acknowledges the challenge to valuers and mining companies in identifying the rightful recipients of compensation for DLU and the specific valuation methods for assessing claims given the absence of express legal directives. Despite these, research is yet to examine the current approaches to valuation for DLU compensation in the light of the compensation principles outlined under the Minerals and Mining (Compensation and Resettlement) Regulations 2012 (L.I 2175) and recent developments in the mining industry. Against this background, a key objective of this study was to contribute to the expropriation discourse by analysing the current practices of compensation for land use deprivation in mining using Asanko Gold Ghana Limited (AGGL) and Newmont Goldcorp's Ahafo Mine (NGAM) as case studies. Another goal of the research was to highlight the weaknesses in the current valuation techniques in assessing compensation for farmlands that mining may impair permanently. The findings from this study allow for deeper reflection on the social and economic impacts of the current approaches to DLU compensation on expropriated farmers. This enables a better understanding of the issues fueling community dissatisfaction with compensation awards.

2. Literature

2.1 Compensable entitlements and compensation for land use deprivation under the legal framework for mining

According to Ayitey et al. (2011), the rationale behind introducing this head of claim in Ghana's mining expropriation laws was to check speculative developments on uncropped lands (fallow lands) impacted by mining activities that were ineligible for compensation

under the repealed Minerals and Mining Law (PNDC Law 153). Therefore, under section 74 (1) of Act 703, a lawful landowner or occupier may be entitled to claims for compensation for:

- (1) deprivation of the use or a particular use of the natural surface of the land or part of the land,
- (2) loss of or damage to immovable properties,
- (3) in the case of land under cultivation, loss of earnings or sustenance suffered by the owner or lawful occupier, having due regard to the nature of their interest in the land,
- (4) loss of expected income, depending on the nature of crops on the land and their life expectancy.

Hence, Act 703 provided compensation for the deprivation of the beneficial use rights of the surface of mining-impacted lands to be paid as part of the compensation entitlements for landowners and lawful occupiers of land for the first time in Ghana. Expounding on the heads of claims outlined under Act 703, the Minerals and Mining (Compensation and Resettlement) Regulations 2012 (L.I 2175) stipulate the principles valuers must consider in assessing each head of claim. Regarding the compensation for DLU, which is the subject of interest of this study, regulation 3 [subsection 1 \(b\)](#) of the L.I 2175 provides that acquiring entities should consider the following principles in assessing claims for compensation for DLU:

- (i) the disruption of the socio-economic activities of the claimant;
- (ii) change or conversion of use of the land after mine closure;
- (iii) duration of the mining lease;
- (iv) diminution of the value of the land as a result of the diminution of the use made of or which may be made of the land;
- (v) severance of any part of the land from other parts;
- (vi) any surface rights or access;

The principle underlying compensation for DLU is that the compensation for crops on the mining-impacted farmland does not include the denial of access to the beneficial rights in the land for the period after the estimated economic lifespan¹ of the crops on the affected land has elapsed. Since the state grants mining leases for a determinable duration, valuers can estimate the compensation for DLU based on the unexpired term of the lease granted to a mining company at the time of valuation. The implication is that the deprivation of an impacted farmer's beneficial use rights in the affected land is not perpetual but for a predefined period (a term of years). Therefore, within the unexpired term of a mining lease, the period after the estimated economic lifespan of the crops on the affected farmland has elapsed constitutes the period of DLU. Whereas this represents an improvement upon previous laws, a notable gap in the current legal framework is the lack of a centralised guidance framework that specifies the valuation methods and standards for assessing these principles for DLU compensation. As a result, valuers have developed novel valuation techniques for assessing DLU compensation based on their understanding of how the deprivation of beneficial rights in land should be quantified (Ayitey et al., 2011).

2.2 Current issues on compulsory acquisition, valuation and compensation: a literature survey

In most instances, the main objective behind such expropriations is to enable states to acquire property in pursuit of socio-economic development for the general public (Larbi, 2008, September 9-10). This notwithstanding, research conducted over the years also point to devastating socio-economic and environmental ramifications where physical and economic displacement occasioned by compulsory land acquisition is not correctly managed (The World Bank, 2016). Evidence abounds on the myriad of challenges bedevilling valuations and compensation for compulsory acquisition around the world.

In Ondo and Ogun states, Nigeria, Ige and Oladapo (2018) and Bello and Olanrele (2016) respectively identified variations in compensation values paid to claimants and the values claimants' private valuers assigned to the same properties. Egbenta and Udoudoh (2018) substantiate these findings and attribute these to the Land Use Act of 1978 (currently known as the Laws of the Federation of Nigeria, CAP 15 LFN 2007), which prescribes the use of Replacement Cost as the sole basis for assessing compensation. Tomson (2009) raises concerns about variations in the valuation methods applied to assess land restitution compensation in Albania. The study highlights the impacts of political interference, time factors and variations in valuation methods on compensation values. White (1999) points out the variations in expropriation legislation and compensation procedures for mining across states in Australia. Howitt (1991) corroborates these findings and notes that the disparities in expropriation legislation have created variations in the compensation framework for expropriations for mining on Aboriginal lands in the Northern Territory and the other states in Australia. Walacik, Żróbek, and Grover (2012) contend that despite the amendments to the Polish regulatory framework for expropriations, as to which value should constitute the basis for compensation and how these values should be determined remains unanswered. Given these issues, Olanrele, Alias, Said, and Bello (2017) advocate for standardisation to ensure global uniformity in compensation principles and the methods for assessment.

In Ghana, Bugri and Kumi (2018) in an assessment of community perceptions, common resources and compensation practices identified the weaknesses in existing laws and weak enforcement of legal provisions as the main factors underlying the controversies in compensation for mining-impacted lands. Adonteng-Kissi (2015) avers that current compensation awards fail in alleviating poverty in mining communities since the sums paid are inadequate to replace expropriated assets. The study advises on the need to relook at land acquisition for mining since community grievances over compensation are potential grounds for community uprising against the government and mining companies. Anim-Odame, 2011, April 13-16) reviewed the disparities in the assessed compensation values of government valuers and private valuers for properties impacted by a Millennium Development Authority funded Project in Accra, Ghana. The study attributes the variations in compensation values to the lack of a reliable database to provide market data to valuers. Despite these studies, seldom have researchers analysed DLU compensation practices in Ghana although this constitutes the newest head of claim introduced into Ghana's expropriation laws. With the exception Ayitey et al. (2011) and Kidido et al. (2015) that stressed

the need for express enactments that outline the methods for assessing DLU compensation claims and the rightfully entitled recipients for DLU compensation respectively, there is limited contextualised studies on DLU compensation practices in Ghana in the light of the existing legal provisions. This presents the potential for further research on DLU compensation for mining in Ghana.

3. Methodology

This qualitative research was conducted in Ghana between January 2020 and May 2020. It adopted a multiple case study approach. As Baxter and Jack (2008) and Yin (2003) argue, the qualitative case study approach is appropriate since it enables researchers to explore a phenomenon within its context using data from multiple sources. Given the need to select cases that allow the researchers to assess the current approaches to valuation and compensation for DLU, it was imperative to choose mining companies that were either in the process of acquiring lands for their operations or expanding already acquired mining concessions. Two gold mining companies, Asanko Gold Ghana Limited (AGGL) and Newmont Goldcorp's Ahafo Mine (NGAM), were purposely selected based on these criteria. See Figure 1 for the locations of the studied cases.

For primary data, semi-structured interviews were used to collect data from a total of 39 study participants. According to Saunders, Lewis, and Thornhill (2007), semi-structured interviews are best used in research for which the data collected is analysed qualitatively. Table 1 presents the breakdown of participants that were interviewed for the study.

Studies show that non-probability sampling techniques are most appropriate when adopting a case study strategy in research (Saunders et al., 2007). Hence, a snowball sampling technique was adopted in selecting farmers whose lands have been previously acquired to gain firsthand information on their experience and perceptions on DLU compensation. On the other hand, officials of the studied companies, private valuers, chiefs and government officials were purposely selected to obtain in-depth information on the issues under study. Interviewing different participants enabled the researchers to compare and contrast different study participants' diverse opinions and perceptions on the issues examined. Yin (1994) contends that case studies that rely on multiple data sources are deemed more reliable than those using single information sources. Interviews were designed to obtain in-depth information on practices such as the valuation methods for assessing DLU compensation, the adequacy of DLU compensation and the issues on the valuation methods in the context of current legislation. Interviews were conducted face-to-face and lasted between 30 to 40 minutes. To ensure that all interview conversations are well recorded and documented, we took notes in addition to audio recordings during all interview sessions. Secondary data was sourced from maps, compensation reports, laws and policy documents and archival materials. Data sourced from the interviews were categorised according to themes and analysed thematically. To facilitate data analysis, interview transcripts were coded based on themes and analysed using the constant comparison method, where each transcript was compared with the rest. Data analysed were presented in various forms. Qualitative data were presented using descriptive narratives. Numerical data were analysed and presented using tables and figures.

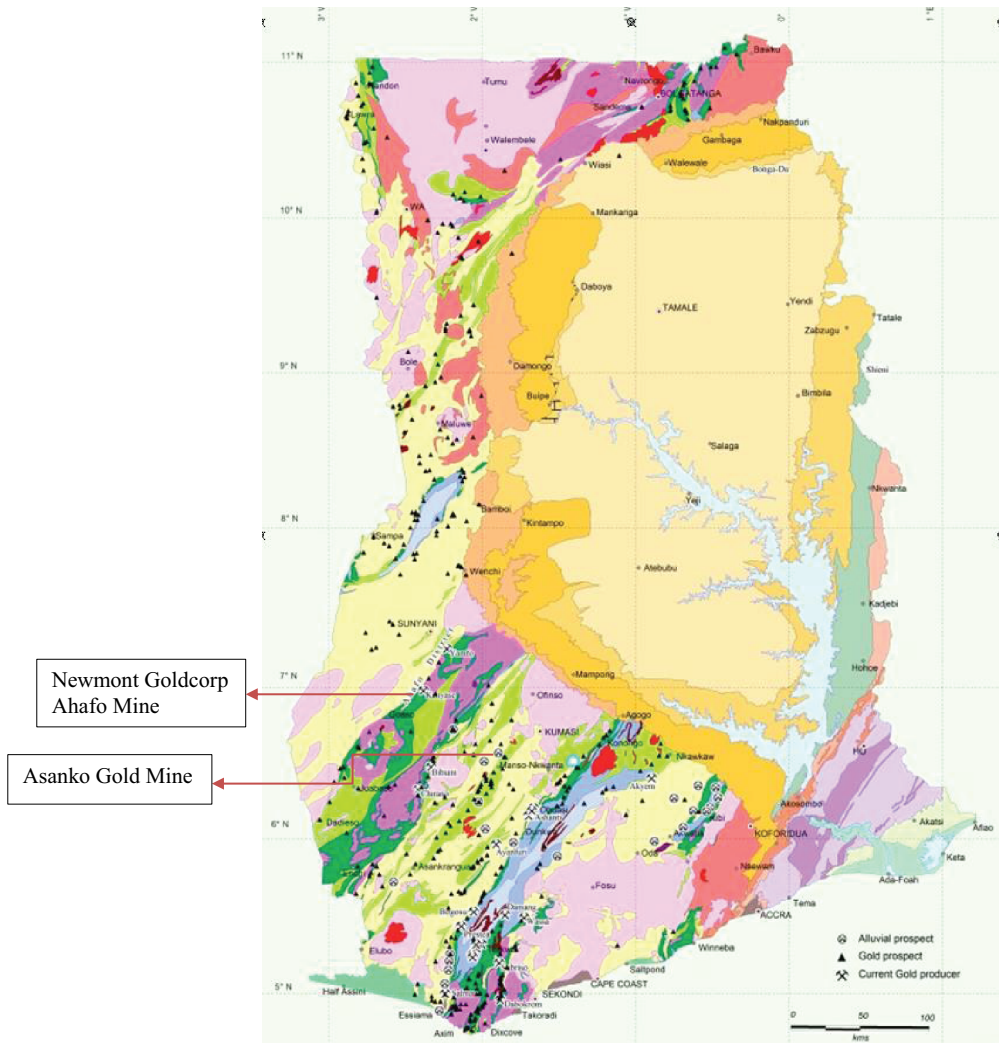


Figure 1. Gold map of Ghana showing the locations of the studied cases. Source: Minerals Commission (2010) modified

Table 1. Number of interview participants.

Category of participant	Number
Chiefs	4
Farmers and farmers’ representatives	18
Officials of the studied mining companies	6
Representatives of the Land Valuation Division of the Lands Commission	4
Private valuers/ researchers involved in expropriation and valuation for compensation	6
Representative of the Minerals Commission	1
Total	39

4. Findings and discussion

4.1 Valuation for compensation for the DLU; legal provisions, valuation techniques and compensation outcomes

The valuation techniques applied for assessing compensation for DLU are premised on two assumptions; the possibility that the expropriated farmland will be cropped (lands with perennial or annual crops) and that the farmland will be uncropped (fallow lands).

4.1.1 Valuation for compensation for DLU for cropped farmlands

According to the valuers and the officials of the studied mining companies, the valuation of cropped lands for DLU compensation involves capitalising the annual rental value of the land under acquisition over the period (unexpired mining lease term) after the estimated economic lifespan of crops on the land has elapsed. The Present Value (PV) of the capitalised annual land rent is subsequently added to the transaction costs incidental to land acquisition to derive the due DLU compensation. In explaining the rationale behind the approach, a valuer remarked that:

The approach to the valuation of cropped farmlands for DLU compensation is based on the assumption that because the estimated economic lifespan of crops on the impacted farmland constitutes the basis for assessing the compensation for crops, this implicitly accounts for the compensation for DLU. Therefore, the expropriated farmer would have had to wait till the remaining economic lifespan of the crops on the land had elapsed before claiming compensation for DLU for the unexpired mining lease term. This explains why valuers apply the appropriate Present Value (PV) factor to the Years Purchase (YP) single rate for the deprivation period to reflect the waiting period – Private valuer 2

Simply, compensation for DLU for cropped farmlands

= YP single rate for the specified number of years (deprivation period) × Present Value of US\$1 (depending on the deferment period/waiting period) × the annual rental value of farmland + transaction costs incidental to land acquisition in the mining area.

Given the large tracks of farmland acquired for mining, ascertaining the age of the crops on each farm parcel to assess DLU compensation becomes challenging and complex. However, our interviews revealed that since the economic lifespan of crops forms the basis for crop valuations, valuers subtract the remaining economic lifespan of the crops on each farm parcel from the unexpired mining lease term to ascertain the period of land use deprivation.

As seen in [Figure 2](#), in the case of NGAM's 14-year unexpired mining lease term for Awonsu North and the Apensu South Land Access Projects, the 4 years remaining (shown in green) after the estimated 10-year (dotted area) economic lifespan of the crops on the impacted farmland has elapsed constitutes the period for DLU compensation. The expropriated farmer in this scenario receives compensation for the crops which implicitly includes the compensation for DLU for the 10 years economic lifespan of the crops (dotted area) on the land and receives the compensation for DLU for the remaining 4 years (green area) as two separate heads of claims. [Table 2](#) shows NGAM's most recent DLU compensation values for the various crop categories.

Unexpired mining lease term (years)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type of compensation paid	Crop compensation period (Remaining economic life of the crop – 10 years. This is also the deferment or the waiting period)										Period for compensation for DLU			

Figure 2. Visual illustration of the compensation for DLU for a cropped land within the NGAM's 14-year awonsu north and the apensu south mining leases. Source: Author's construct

Table 2. NGAM's negotiated compensation for DLU values for the various crop categories.

Deprivation of land use starting August 2019						
Annual rent:		US\$44.25		Capitalisation rate:		18.50%
Crop	Economic Life expectancy (in years)	Category (Stages of maturity of crops)	Years of deprivation	YP factor	PV factor	Value per acre ² (US\$)
Cash or tree crops	25–30 years	Seedling	14	4.9033	1.0000	216.9710
		Medium	11	4.5699	0.6010	121.5330
		Mature	6	3.4532	0.2572	39.3012
Annual crops	1 or less	Seedling	14	4.9033	1.0000	216.9710
		Medium	14	4.9033	1.0000	216.9710
		Mature	14	4.9033	1.0000	216.9710
Bare land (fallow land)	N/A	N/A	14	4.9033	1.0000	216.9710

Transaction costs of \$53.10 per acre of farmland Source: Ahafo South Resettlement Negotiations Agreement Annex 1 p. 7

Whereas the annual land rent and the costs incidental to land acquisition were determined based on data analysis and reconciliation between the mining company and the impacted communities (with the assistance of a valuer representing the communities), a valuer described how the capitalisation rate is determined by saying:

Usually, because we treat the compensation for DLU as a form of return on investment in land we determine the capitalisation rate by analysing the near best type of investment vehicles on the market, mostly the Government of Ghana bonds and treasury bill rates. However, because these rates are not stable over long periods, we strike an average after computing the rates over a reasonable period. I must add that we ensure that the adopted capitalisation rate is higher than the prevailing market rate for such securities to account for the risk of retaining long term investments – Private Valuer 1

The concluding statement is consistent with Scarrett (2008), Blackledge (2009) and Baum, Nunnington, and Mackmin (2011) advice on the need for valuers to adopt capitalisation rates above risk-free rates when valuing property with poorer liquidity factor having due regard to the comparative risks of holding long term investments.

In the AGGL case study, our interviews with the company's representatives indicated that since the DLU compensation for affected farmers has remained unpaid since 2014, the company renegotiated the 2020 compensation values based on the parameters agreed upon in 2014. As shown in Table 3, a review of the 2014 DLU compensation for the Abiram mining lease identified the following parameters that constituted the basis for assessing compensation for DLU:

Table 3. AGGL's year 2014 DLU compensation parameters for impacted farmlands within the Abiram mining lease.

Category	Units/Rate
Annual rent per acre of farmland	US\$62.55
Capitalisation rate (yield)	18%
Term of mining lease (Abiram lease)	12 years

Source: Bannerman, Ankisiba, and Sarpong-Oti (2014) modified

Table 4. AGGL's 2020 renegotiated DLU values for the Abiram mining lease.

Cropped land categories	Class of crop	Economic life (years)	Value per acre in US\$ (based on the stages of maturity of the crops on the impacted farmland)			
			Seedling	Small	Medium	Mature
Cash crops						
Cocoa	Cash crop	30	232.6196	204.6872	136.0443	43.7442
Teak	Cash crop	30	232.6196	204.6872	136.0443	43.7442
Coffee	Cash crop	25	232.6196	204.6872	136.0443	43.7442
Perennial crops						
Sugarcane	Food crop	7	241.2629	236.0321	217.7688	118.5105
Banana	Food crop	5	241.2629	236.0321	217.7688	142.3887
Annual crops						
Cassava	Food crop	1	241.2629	236.0321	227.5659	213.0184
Maize	Food crop	1	241.2629	236.0321	227.5659	213.0184
Bare land (uncropped lands)	N/A	N/A				243.0428

Source: AGGL

Based on these parameters, the AGGL renegotiated DLU compensation values with the host communities as shown in [Table 4](#).

It can be inferred from the preceding sections that parameters such as the annual land rent, the transaction costs incidental to land acquisition in the mining area and the period of deprivation which depends on the duration of the mining lease constitute the basis for assessing the compensation for DLU. However, under [section 2.1](#) of this paper, it was established that the Minerals and Mining (Compensation and Resettlement Regulations, 2012), L.I 2175 states that compensation principles such as *the disruption of the socio-economic activities of the claimant; the change or conversion of use of the land after mine closure; and the diminution of the value of the land as a result of the diminution of the use made of or which may be made of the land* must be considered in assessing compensation for the DLU. Based on the foregoing findings, it becomes evident that valuation methods applied in assessing DLU compensation fail to account for these compensation principles. Studies have shown that the functional dimension of DLU is the most critical because deprivation of land use under current legislation is hinged primarily on the functional use of land (Kidido et al., 2015). Since these compensation principles pertain to the functional use of land, this gives rise to fairness and equity concerns. In reaction to a probing question on the compensation principles considered in DLU compensation valuation, a valuer intimated that:

For compensation for DLU assessed before parliament passed the Minerals and Mining (Compensation and Resettlement) Regulations (L.I 2175) in 2012, we can excuse the mining companies since the Minerals and Mining Act, 2006 (Act 703) did not outline the specific

compensation principles to guide valuations. Upon the coming into force of the L.I 2175 in 2012, I expected that the mining companies would amend the valuation methods to account for these compensation principles. Unfortunately, this has not been the case. The old approach still prevails. For instance, to date, NGAM uses the DLU compensation values negotiated since 2009 as benchmarks for annual compensation reviews without reconsidering the new compensation principles introduced in 2012 under the L.I 2175 – Private Valuer 4

This statement reinforces the argument that despite stated commitments to fairness, equity, and transparency in land acquisition and compensation, mining companies may overlook critical factors in compensating project affected persons (PAPs) (Whiteman & Mamen, 2002).

Officials of the Minerals Commission also disclosed that land reclamation and restoration after mine closure takes between two to three years. As an official of the Minerals Commission stated:

After mining, there is mine decommissioning and closure, which takes two to three years to complete. This period is for land reclamation and restoration. Afterwards, the mining company will hand over the land to the state for onward transfer to the communities – Official 1 (Minerals Commission)

The implication is that the expropriated farmers in both the NGAM and AGGL host communities may regain access to their lands only after the period for land reclamation and restoration has lapsed. However, as revealed in the preceding sections, the current valuation approach for assessing compensation for DLU solely considers the denial of the beneficial land use rights over the unexpired term of the mining lease. This excludes the period for land reclamation and restoration after mine closure. Aside from this, Ayitey et al. (2011) has confirmed the possibility of permanent deprivation of land use rights when the anticipated or actual use of the land permanently impairs the land beyond future beneficial uses. The probability that some project affected persons (PAPs) may forever lose the beneficial right of use and access to their lands due to mining was affirmed in the remarks of an AGGL representative:

For some lands, they cannot be reclaimed or backfilled after mining. But normally, the mining companies post a reclamation bond with the regulators: the Minerals Commission and the Environmental Protection Agency (EPA). The bond is to be used for community development if the company is unable to backfill and reclaim the land upon mine decommissioning. The challenge is that the bond is for community development and not precisely for the benefit of farmers whose lands are permanently impaired – Company official 1 (AGGL)

On the back of these findings, it is no surprise that the concerns over permanent loss of the beneficial land rights featured strongly in our interviews with expropriated farmers. Experience from the AGGL catchment communities reinforces these concerns. According to the chief of an impacted community

In 2002, when Resolute Mining Limited (a majority Australian-owned gold mining company that previously mined the current AGGL concessions) ceased operations, expropriated farmers were unable to regain access to the lands acquired for staff housing and mining pits. Some were also unable to access their reclaimed lands because the company argued the compensation paid by the previous mineral rights holder was in respect of the rights in those lands – Chief 3 (AGGL host community)

It is instructive to note that farmlands acquired under the repealed PNDC Law 153 were ineligible for DLU compensation. When the government of Ghana granted the lease to the same mining concession to AGGL in 2014, whereas the staff housing and offices have undergone refurbishment and are currently in use, AGGL has reopened and expanded the old mining pits for further mining. Though Act 703 provides compensation for DLU, to date, the farmers whose lands were acquired for these uses under PNDC Law 153 are yet to receive compensation for DLU. Much as AGGL is aware of this issue, it is yet to take necessary action to compensate those farmers. In the words of a farmer:

Some of us have lost our lands forever. When Resolute mining discontinued operations, the company retained security to guard key areas of the decommissioned mine. Those of us whose lands were acquired for the mining pits and staff housing could not access our lands. To date, we have not received compensation for these lands – Impacted farmer 7 (AGGL host community)

In response, a company's representative stated that:

It is true that Resolute Mining Limited reclaimed some areas. But the state did not hand over the reclaimed lands to their owners. The government held the lands till this company moved in. To address this, the company can export all the cadastral maps of the farm parcels to the Office of the Administrator of Stool Lands (OASL) and register the title to these lands for the individual landowners. Through this, the owners can get a cadastral map of their farms so that their generations can rely on the maps to claim their lands in the future – Company official 2 (AGGL)

In effect, the current valuation techniques valuers apply in assessing DLU compensation where the unexpired term of the mining lease serves as the sole basis for determining the period of deprivation for all mining-impacted lands unfairly denies some expropriated farmers their due compensation. Given the socio-cultural and economic significance of land in rural Ghana, this has attracted intergenerational equity concerns as customary lands passed on from generations may not be available to unborn generations.

Besides these, studies show that depending on the preceding land use, certain land users may incur distinctive losses due to changes in land use and access (Vermeulen & Cotula, 2010). It is known that mining impedes access to land use rights. These include the loss of access to common property resources such as forests for hunting, firewood, medicinal plants and mushrooms. Pastoralists lose access to grazing fields, fisherfolk lose access to rivers, while farmers lose access to footpaths to adjoining farms and water bodies for irrigation. Although regulation 3 [section 1](#) subsection b(vi) of the L.I 2175 requires the mineral rights holder to consider the denial of *any surface rights or access* in assessing compensation for DLU; it is evident from the preceding discussions that the current approach to the valuation for DLU compensation fails to account for the loss of surface rights and common property resources. Our interviews with valuers revealed varied opinions as to whether to consider the loss of common property resources in compensating for DLU. Some valuers opined that:

Section 74 subsection 1(g) of Act 703 proscribes compensation for losses or damages for which compensation cannot be assessed in monetary terms in accordance with the legal principles. As such, it will be illegal to assign values to these losses in compensating PAPs – Private Valuer/ Researcher 5

On the other hand, others believed that denying the impacted communities the compensation for these losses is unfair as this constitutes part of the compensation principles under the L.I 2175. The following statements demonstrate the lack of common ground on compensation for common property resources amongst valuers:

The law is specific on this. Act 703 states that when the ownership or valuation of a particular landed property is such that it will pose difficulties, then that item should not be included as part of the compensation. This effectively eliminates the assessment of the right to common property resources in compensating for DLU – Private valuer 6

The mining companies are not looking at best practice. The compensation principles under the L.I 2175 includes the loss of surface rights or access. Some farmers pick mushrooms and collect firewood, medicinal plants, and snails from their farms and forests for sale and household consumption. It is unjust to overlook these losses in assessing compensation for DLU. There are established valuation methods that we can apply to arrive at reasonable values for such losses – Private Valuer/ Researcher 3

Research indicates that the financial benefits derived from forests and wastelands constitute a significant contributor to annual household consumption and income for adjoining local communities (Batagoda, Turner, Tinch, & Brown, 2000; Godoy et al., 2002; Vermeulen & Cotula, 2010). On this note, one could question why the L.I 2175 provides for compensation for loss of surface rights or access yet the valuation techniques for assessing DLU compensation disregard these losses. Is it a deliberate strategy by NGAM and AGGL to reduce the amount of compensation for PAPs? Or are the ambiguities in the law to blame for their refusal to compensate for the loss of common property resources? This affirms Whiteman and Mamen's (2002) assertion that, under the pretext of strictly adhering to local laws, mining companies gain from the ambiguities in such laws.

4.1.2 Valuation for compensation for DLU for uncropped lands

The valuation of uncropped lands (fallow lands) for DLU compensation involves the capitalisation of the annual land rent of the expropriated farmland over the unexpired term of the mining lease plus the transaction cost incidental to land acquisition. The assumption behind the methods is that, since the affected farmer or lawful occupier is yet to grow crops on the expropriated farmland, the denial of the beneficial rights in the expropriated farmland is for the entire duration of the mining lease. As Figure 3 shows, the sum of the capitalised annual land rent of the mining-impacted farmland and the transaction cost incidental to land acquisition equals DLU compensation.

Therefore, the compensation for DLU for uncropped farmlands

= YP single rate for the specified number of years (deprivation period) × the annual rental value of the impacted farmland + transaction costs incidental to land acquisition in the mining area

Unexpired mining lease term (years)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type of compensation paid	Compensation for DLU (14 years unexpired lease period)													

Figure 3. Visual illustration of the compensation for DLU for uncropped/bare lands within the NGAM's 14-year Awonsu North and the Apensu South mining lease. Source: Author's construct

However, our interviews revealed that per the prevailing farming practices in the mine host communities, farmers expand existing farms to fallow areas (uncropped lands) and replant their old farms at the end of the productive life of their crops. In the case of cocoa (the predominantly grown crop in the NGAM and AGGL mining host communities), the government of Ghana, through the Ghana Cocoa Board, has launched a programme to assist cocoa farmers to replant old cocoa farms. As a goodwill gesture, the Board pays an annual token to farmers as compensation for the replanting period. Hence, assessing DLU compensation for fallow lands on the assumption that the impacted farmland will remain bare for the entire duration of the mining lease without considering these factors brings into question the fairness and adequacy of the compensation.

As in the case of cropped lands, the valuation techniques applied in assessing DLU compensation for uncropped lands fail to account for notable compensation principles stipulated under regulation 3 subsection 1 (b) of the L.I 2175. These include *the disruption of the socio-economic activities of the claimant, the change or conversion of use of the land after mine closure, and the diminution of the value of the land as a result of the diminution of the use made of or which may be made of the land*. Neither does the method account for *the loss of surface rights or access*. Based on this, it is fair to conclude that by assessing DLU compensation for uncropped farmlands using this valuation technique, expropriated farmers risk being paid compensation below the actual value of the losses sustained. It is hardly surprising that 84% of compensation recipients believe that their compensation awards were not commensurate to the value of their acquired lands and attached assets (Ghana Chamber of Mines, 2008).

5. Conclusion

This article has examined the methods for assessing compensation for land use deprivation in mining and identified the flaws in the methods. It has demonstrated that the valuation techniques applied in assessing compensation for land use deprivation in mining exclude fundamental compensation principles outlined under law. Given the way rural communities relate to land and the economic significance of land as the primary source of income to rural mining-impacted communities, the compensation principles and the valuation methods applied in assessing the compensation values of mining-impacted property have substantial impacts on the social-economic wellbeing of the impacted communities. Such impacts are most severe for women, the aged and migrants who are the most sensitive to land dispossessions.

Besides this, the study shows that farmers whose land may be impaired permanently by mining beyond any future beneficial uses risk receiving compensation below the actual value of the loss of beneficial rights of use and access when valuers apply the same principles in assessing DLU compensation for all mining-impacted farmlands. To minimise the social and economic disruptions that mining-induced expropriations bring, it is necessary to ensure that the methods for assessing compensation due project affected persons are fair. The study recommends additional measures to streamline DLU compensation practices in the mining sector. This will provide a uniform reference framework for valuers in assessing DLU compensation. Standardisation also guarantees that the valuation methods that valuers apply in assessing DLU compensation align with the guiding legislation. There is also the need to fine-tune the current valuation techniques to be responsive to the varied situations that may arise due to the anticipated or the actual use of farmlands acquired for mining.

Notes

1. The economic lifespan of a crop refers to the productive years within which the crop retains its ability to return proceeds to the farmer.
2. Due to the high land fragmentation in Ghana's rural communities, surveyors apply imperial units in measuring farmlands. The unit applied in measuring mining impacted farmlands is acres.

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