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John S Ombella
Lecturer, Department of Economic Law, Faculty of Law, Mzumbe University; Advocate of the High Court, Ph.D. Candidate Faculty of Law Open University of Tanzania, Tanzania

Correspondence
John S Ombella
Lecturer, Department of Economic Law, Faculty of Law, Mzumbe University; Advocate of the High Court, Ph.D. Candidate Faculty of Law Open University of Tanzania, Tanzania

Upholding human rights in au member states' extractive sector: Review of aspects of food security to communities neighbouring mines in selected countries

John S Ombella

Abstract
Food insecurity in most African Countries is a common concern. Although a number of factors such as; climate change and internal conflicts contributes towards food insecurity situation, mining activities exacerbate the same especially to communities surrounding mines. This is even true when most African governments seem to favour investment in extraction sector than preservation of human rights, such as right to food. Notably, such countries do not have robust legal frameworks that could guarantee food security to communities neighbouring mines. Consequently, presence of mines threatens food security through land dispossession, degradation, draining agricultural man power to mining instead and population surge that impacts food availability to name but a few. The African Charter on Human and Peoples' Rights (1986) (African Charter) contains principles relevant to protect food security to such communities. To curb this problem, African countries are required to uphold human rights under the African charter in their extractive sectors legal frameworks. The aim of this study is to examine the extent to which selected African countries' mining legal frameworks guarantee food security to communities in the vicinity of mines. In order to achieve this, the paper carries out a comparative documentary review of the extractive sector related codes from three countries namely; Botswana, Tanzania and Ghana with the view to identify the extent to which food security is safeguarded. It is shown that, there is varying trend of narrow, wide and wider protection of food security in the extractive sector of selected countries. The wider trend is expected to influence the legal frameworks of mineral resources-rich African countries, Tanzania inclusive.

Keywords: Mining, food-security, human-rights, Botswana, Ghana, Tanzania

1. Introduction
Food insecurity in most African countries is a common concern (OAU/AU 50th Anniversary Solemn Declaration, 2013) [7] (African Union Commission, 2015) [6]. Although a number of factors such as; climate change and internal conflicts contributes towards food insecurity situation, mining activities exacerbate the same especially to communities surrounding mines (Thulstrup & Hennry, 2015) [51] (Kiprutto *et al*., 2015) [30] (Bradley, 2020) [12] (Mwakesi *et al*., 2020) [42]. This is even true when most African governments seem to favour investment in extraction sector than preservation of human rights, such as right to food. Notably, such countries do not have robust legal frameworks that could guarantee food security to communities neighbouring mines (Zarsky, 2013) [68]. Also, most often, majority of developing countries do not protect some of human rights under the enforceable part of their constitutions, but rather as inspirational principles (Jung & Rosevear, 2011) [28]. Consequently, most of socio-economic rights as it is for the right to adequate food, are not justiciable in many African countries. Such a trend poses a serious threat to food security among communities neighbouring mines owing to the fact that, they are prone to the immediate negative impacts of mining. Consequently, presence of mines threatens food security through land dispossession, degradation, draining agricultural man power to mining instead and population surge that impacts food availability to name but a few (Ocansey, 2013) [43] (Juma, 2015) [27] (Tyson, 2020) [52] (Jobin, 2021) [26].
However, the African Charter on Human and Peoples' Rights (1986) (African Charter) contains principles relevant to protect food security to such communities. To curb this problem, African countries are required to uphold human rights under the African charter in their extractive sectors legal frameworks. In order to achieve mining positive contribution to the economy and communities neighbouring mines, one needs a robust legal and policy framework that addresses all negative impacts of mining (UN, 2012), (UN Commission for Sustainable Development, 2011) [56].

The objective of this paper is carry out a documentary comparative review of extractive related codes of selected African countries namely; Ghana, Tanzania and Botswana with the view to examine the extent to which they contribute to guaranteeing food security to the communities neighbouring mines. The term food security in this paper refers to, guaranteeing ability of the communities adjacent to mines to produce their own sufficient food that is free from harmful substances.

Structurally, this paper is organized into six parts inclusive this introduction. The immediate part, part two provides for methodology applied in this paper part three back ground information. The following part, part four critically discuss and analyse the extent to which mining sector laws uphold human rights in selected African countries. Part five provides for distilled similarities while part six concludes this paper.

2. Methodology

Methodologically, this is a comparative doctrinal study where review is carried on primary sources of data namely legal instruments such as regional convention(s), declarations, statutes and case law of the respective selected countries. The paper also relies on secondary data through reviewing sources such as; relevant journal articles, policies, books and other internet sources. In particular, according to (Esser & Vligenthart, 2017) [22] a comparative method involves comparing and contrasting the extent to which selected variables (in this case countries mineral codes) are similar or different. In the case at hand the extractive related codes of three selected countries, are examined with respect to the extent they guarantees food security to communities neighbouring mines. According to Curan, 1998 [17] although foreign laws are known to have no binding effect in courts of law, yet they act as tools for persuading courts in instances where the statute is same worded, and set basis for suggesting reforms of the law [emphasis added].

In particular, three African countries namely, Ghana, Tanzania and Botswana are selected as the case for comparison in this study. The choice of these countries is influenced by six major reasons; firstly, according to the website of the African Union, all selected countries are members of the AU and thus are obliged to abide with the requirement to uphold human rights principles in their extractive sectors. Secondly, they both are common law countries hence principles such as precedent may easily be applicable among them. Thirdly, all the named three countries do not protect the right to adequate food under the enforceable part of their constitution [1]. Consequently, it calls for review of the extractive related codes bearing in mind the noted potential and actual harm mining may pose on food security to communities neighbouring mines.

Fourthly, selected countries are among the major producers of hard minerals, like gold and diamond in Africa (Gold Hub, 2020) [23] (Brightmore, 2020) [13] (Whitehouse, 2019) [67]. Consequently, mining activities are intensively taking place in their jurisdiction. Fifthly, according to (Lor, 2011) [34] selected countries, represent geographical regions in Africa namely Western, Eastern and Southern respectively where, mining activities take place the most. Sixthly, and the last, Botswana has been heralded as an exemplary African country that has managed to properly govern its mineral resources through her robust legal framework (Economic Commission for Africa, 2018) [20], (UN-Economic Commission for Africa, 2015) [60]. Consequently, conducting a review of Botswana's extractive related codes in relation to protection of food security to communities neighbouring mines will provide a guide to other African countries such as Ghana and Tanzania.

3. Mining impacts on food security

African countries are enormously endowed with mineral resources capable of being exploited and contribute to socio-economic well-being of their citizens (Economic Commission for Africa, 2009) [19], (Africa Development Bank, 2016) [4]. Due to such endowment, mining activities are taking place in many African countries either on large or small scale basis. Owing to globalization, where the role of multinational institutions such as World Bank Group on reforms of extractive sector laws with the view to protecting foreign direct investment (Campbell, 2010) [14], influence on governance, transparency and accountability (Desai & Jarvis, 2012) [18] to name but a few, multinational companies have also invested in mining activities around the globe, Africa inclusive. Despite positive contribution of mining to the economy, if not properly carried out, mining has a bearing on violation of human rights in countries and or communities where it takes place (United Nations Conference on Trade and Development, 2007) [61]. Among common human rights that are violated during large scale projects such as extraction of minerals are: right to property (land specifically), right to clean water, right to housing, right to adequate food, to name but a few (Ploeg & Vanclay, 2017) [45].

Taking the right to adequate food which is the focus of this study for example, mining is said to contribute to food insecurity as it: renders people land less; displacing people from their arable land (Rilefweb, 2013) [48]; polluting land impacting its productivity; polluting aquatic organisms which are sources of food (UN Economic and Social Council, 2011); clearing vegetation contributing to climate variation (Bogumuli, 2012) [10], (UNECA, 2011) [59], (Sonnenbeg & Frauke, 2001) [50], (Commission for Justice and Peace (CCJP), 2014) [15] (Bradley, 2020) [12] to name but a few. Notably, at the African regional level, there exists the African Charter which provides for human rights principles and their protection in the region as it is for other regional human rights conventions [2]. African countries are expected to uphold principles in the charter in their domestic legislation as a means to guarantee human rights protection, even in the extraction sector. The next part critically discusses the reflection of human rights principles in the extractive codes of selected countries.

4. The extent to which aspects of food security are upheld in the selected countries extractive codes

The call for upholding human rights principles in AU member states' extractive codes may be explained in various ways. The African charter for example calls all her member states to adopt both legislative and administrative

[1] All the selected countries 'constitution seem to be silent on the right to adequate food, Ghana's Constitution 1992; URT Constitution 1977; and the Republic of Botswana's Constitution 1966, respectively.

[2] See for example, the American Convention on Human Rights 1969 and the European Convention on Human Rights 1950, which regulates human rights in the American and European regional blocks respectively.

steps to domesticate human rights. Despite of the fact that right to food is not expressly provided under the African Charter, it is shown under the African Commission for Human and Peoples' Rights that such a rights is embedded in other rights such as right to life. Moreover, the African charter does not specify sectors in which human rights should be upheld. Most commonly, domestication of international instruments as it is for the charter may be done through the constitutional provision, adoption of a special Act of the parliament and or amending various laws to come into conformity with their international obligations (Viljeon, 2012) [65]. The call for upholding human rights in the extractive codes seem to have recognition in a number instruments of African regional and sub-regional levels. At the regional levels there exist for example; the Kigali Declaration 2003, the ACHPR Resolution 224 of 2012 on Human rights-based approach to natural resources governance; Niamey Declaration ACHPR/Res. 367 (LX) 2017 to name but a few. At the sub-regional level reflection may be made to instruments such as; the ECOWAS Directive on the harmonisation of guiding principles and policies in the mining sector of 2009. According to (Elver, 2015) [21] a United Nations (UN) special *rapporteur* on the right to food, adoption of sector specific legislative measures will guarantee addressing specific impacts caused by the sector on the right to food for example.

Additionally, the global and African region communities seem to be fighting against food insecurity in the globe (UN, 2012) and Africa in particular (African Union Commission, 2015) [6]. Measures, targets and aspirations are set upon which every state will be assessed in her efforts to realize a food secured status in a given period of time [3]. In order to be able to eradicate food insecurity, it is imperative that one identifies its root causes, (improperly regulated extractive activities inclusive) and tackle them. It is also worth to point out that upholding human rights principles in the extractive sector codes will harmonize the manner in which mining activities are carried all around in African states as envisioned under article 3 (2) (e) of the Statute of the African Mineral Development Centre, 2016. According to (Ayeni, 2019) [9] AU has relevant soft and hard principles relevant to safeguard peoples' rights. He shows however that, the number of instruments is irrelevant if their effective use is not guaranteed in domestic laws emphasis added. Consequently, this part puts forward an argument that, African states are required to form part of the global efforts to eradicate food insecurity through adoption of robust extractive sector laws safeguarding the right to food.

4.1 Guaranteeing food security under the extractive sector in Botswana

The extractive sector in Botswana is regulated by a number of legislation among them are inclusive; the Constitution of Botswana 2006, The Tribal Land Act 1968, State Land Act 1966, Acquisition of Property Act 1966 and the Mines and Minerals Act 1999 to name but a few. This part analyses these legislation as follows hereunder;

[3] African Union Commission, Agenda 2063, The Africa we want, 2015, para 72 (e) AU seems to set the year 2063 as the year in which they shall achieve a complete eradication of hunger and food insecurity in the continent; UNGA Resolution Transforming our world: The 2030 Agenda for Sustainable Development, Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1, para 15, sets 2030 as inspirational timeline to eradicate hunger around the globe.

4.1.1 Land related legislation

Land ownership and control in Botswana is capable of being explained in three fold, the tribal land, the state land and freehold. According to (Machacha, 1986) [36] Botswana inherited these land ownership forms from her colonial master, although some reforms were inevitable after independence.

Firstly, the tribal land represents the land which is owned by the respective tribes in Botswana. According to (Machacha, 1986) [36], and (Adams *et al*., 2003) [2] tribal land was being allocated freely to members of a particular tribe by their chiefs. According to (Adams *et al*., 2003) [2] the common term used to refer this traditional free land allocation was the 'right for avail'. In particular, (Adams *et al*., 2003) [2] show that, the chief was required to allocate every tribesman land for his residence, farming and grazing. After independence, the practise was slightly reformed, whereby according to section 10 of the Tribal land Act 1968, the tribal land was vested in the tribal land boards for the benefit of all the citizen of Botswana. Consequently, the land is now allocated through the tribal land boards and not the chiefs. Additionally, according to section 7 of the Tribal land (Amendment Act) 1993, every citizen in Botswana becomes eligible for land allocation irrespective of his tribe.

Secondly, the state lands, this represents the land which is owned by the State for the benefit of all citizens of Botswana. State lands are regulated under the State Lands Act 1966. According to section 2 of the State Lands Act 1966, state land represents all the land which is vested into the state commonly through the process of land acquisition. According to (Adams *et al*., 2003) [2] state land is allocated for variety of activities ranging from; residential purposes through leases, large scale development activities like transport infrastructure and construction of dams, establishment of training institutions and for establishment of game reserves.

Thirdly, the freehold land tenure which represents lands that was being held under the white settlers during colonial period in Botswana. After independence, this form of land ownership represents land privately owned by individuals for residential and or agricultural plantations (Adams *et al*., 2003) [2], (BOPA, 2016) [11].

Notably, land ownership under both the tribal land and freehold does not confer the ownership of the valuables underneath the soil. According to section 3 of the Mines and Minerals Act 1999, all the valuables such as minerals, oil and gas underneath the soil are vested to the President who holds them for and on behalf and benefit of all the citizens of Botswana. Consequently, in order to develop mineral sector the government has to acquire land owned either under the tribal land or freehold land tenure. This is even true, given the fact that, more than 70% of the land in Botswana is being held under the tribal land tenure system (Adams *et al*., 2003) [2], (African Natural Resources Centre, 2006) [5]. Land acquisition in Botswana is regulated by the constitution and other land related laws. According to article 8 (1) (a) (iii) of the Botswana constitution of 2006, land may be compulsorily acquired by the state in order to develop mineral extraction. Land acquisition is also provided for under section 3 (1) (b) of the Acquisition of Property Act 1966 and section 32 of the Tribal Land Act 1968. Notably, according to section 32 (2) read together with section 35 of the Tribal land Act 1968, when the tribal board are not willing to have their land compulsorily acquired by the

State, a commission is set to inquire into the matter. Indeed this could be an opportunity for the tribal land board to defend their land which supports their livelihood such as farming and grazing against extractive sector. However, the process of compulsory land acquisition by the State takes cognisant of the constitutional principle that protects individual properties. Therefore, article 8 (1) of the Botswana's constitution 2006, guarantees ownership of properties and requires, when such ownership is interfered, there be prompt compensation.

4.1.2 Mines related legislation

In Botswana mining activities are regulated under the Mines and Minerals Act 17 of 1999. In order to guarantee food security, the Act allows carrying out mining activities simultaneously with other anthropogenic activities such as farming and grazing. Consequently, the mineral rights holders are guaranteed to carry out their underground mining activities while the land owners and or occupiers are allowed to proceed with agricultural activities on the surface. In particular, section 61 (1) of the Mines and Minerals Act 1999 states as follows;

The owner or lawful occupier of any land within the area of a mineral concession shall retain the right to graze stock upon or to cultivate the surface of such land insofar as such grazing or cultivation does not interfere with the proper use of such area for prospecting, retention or mining purposes.

In addition, the same section restricts mining activities from being carried out in areas where agricultural activities are taking place. These areas are inclusive plots of land with crops on them; plots of land cleared and prepared for agricultural activities and plots of land in which crops have just been harvested. Such restrictions are relevant to food security owing to the fact that, agricultural activities are relevant to food production to majority of people in Botswana (SADC, 2011) [49], (UNDP and UNEP, 2015) [4]. Also as noted from above, the land allocation under the tribal land tenure focuses on residence, farming and grazing, activities which are supportive of peoples' livelihood. According to (Mkentane, 2016) [39] and (Munnik, 2016) [41] mining activities are reportedly to have impacted agricultural land by substitution of the top fertile soil with gravels which do not support agriculture in Mpumalanga in South Africa. Consequently, restricting mining activities in areas where agricultural activities are taking place guarantees food production for such communities.

In order to ensure that the occupier and or owner of the land enjoys the rights to carry out agricultural activities like grazing and farming simultaneously with mining activities, section 63 (1) of the Mines and Minerals Act 1999 provides for remedies in case of violation of such a right. The remedies to the owner and or occupier arise out of breach of duty owed to them by mineral rights holders to keep the mining sites protected. In particular, section 61 (4) of the Mines and Minerals Act 1999, requires the mineral rights holders to guarantee safety of the surface rights users by protecting all mining pits and dumping of the hazardous wastes in a safe place to avoid contamination to farms and or cattle during grazing.

Moreover, apart from the set out the obligation of the mineral rights holders, the section 74 (1) of the Mines and Minerals Act 1999, also provides for remedies in case the set obligation is breached. Consequently, the surface rights user may claim for remedies arising from; dispossession of land and or its natural surface, loss of land, loss of actual and expected income from the farms depending on the nature of crops cultivated on the farm. In particular, the nature of remedies land owners and or occupiers are guaranteed seem to cover not only the net value of the crops but also their legitimate expectation had the crops not been affected by the mining activities. This remedy, among others is very important bearing in mind the impact of mining activities may not necessarily be immediate. According to (UN, 2017a) [54], (UN, 2017b) [55] some of mineral pollutants are persistent in nature and may bear gross consequences on future generations' ability to produce their own food.

4.2 Guaranteeing food security under extractive sector in Tanzania

There are several legislation that regulate the extractive sector in Tanzania. Such laws are inclusive the URT Constitution 1977, the Land Acquisition Act 1967, the Land Act 1999, the Village Land Act 1999, the Mining Act 2018, the Environmental Management Act 2004 to name but a few. This discussion, the focus is mainly on the land and mining related legislation.

4.2.1 Land regulating legislation

According to section 1 of the Land Act 1999, in Tanzania land is being owned by the President for and on the behalf and benefit of all Tanzanians. Consequently, Tanzanians do not own land, but occupies it either for a specified period of time or indefinitely. Land occupancy in Tanzania may be explained under two fold, the Granted Right of Occupancy (GRO) and the Customary Right of Occupancy (CRO). While the GRO seems to be common in cities and developed townships, the CRO is most common in rural areas which are prime for investment and extraction of natural resources such as minerals (Peter, 2007) [44].

Notably, both the GRO and CRO do not confer to its holders the right to own the sub-soil. This is because under section 22 (2) of the Land Act 1999, land is defined in a manner to exclude the subsoil valuables such as minerals, oil and gas. Parallel with that a different organ that deals with the allocation of the rights related to the sub-soil such as mineral rights is established under section 22 (b) of the Mining Act 2018.With regard to land allocating authorities section 4 (8) of the Village Land Act 1999, establishes the village council while section 9(1) of the Land Act 1999 establishes the commissioner for land, which are respective organs for allocating land in village and urban areas. Consequently, the existence of two parallel organs dealing with allocating of rights on land on different occasion and sectors brings about the conflict between, say the mineral rights holders and the holders of the rights of occupancy. Despite such a parallel institutional set up, section 1(1) (i) of part II of the Land Act 1999 set a principle that requires all the occupiers of the land to be consulted in any matter that relates to their land.

In light of the foregoing, land may be taken by the government for extraction of minerals despite it being already subjected to other rights and uses. This is due to the

[4]. According to UNDP grazing account for a large source of employment of rural communities and that cattle are used apart from being sources of food but used in rituals and a form of saving for many people in Botswana.

fact that, section 4 (1) (e) of the Land Acquisition Act 1967 justifies compulsory acquisition of land by the government in Tanzania for development of mineral activities. Notably, article 24 of the URT Constitution 1977 guarantees protection of the properties owned by everyone and requires compensation in case such a right is violated. Similarly, section 1 (1) (g) of the Land Act 1999 does also reflect the constitutional principle of compensation in case the rights to landed property are violated. Compulsory acquisition of one's land for mining purposes therefore violates such a constitutional guarantee and call for compensation forthwith. The court in Tanzania has once interpreted the principle of compensation and qualified it as the Nyerere's Doctrine of land ownership in the case of (*Attorney General v. Aknonaay and Lohay*, 1994) [16]. The doctrine requires that before one asserts ownership of land he/she must have laboured on it by adding value to it. His ownership is not of the land, but rather of the value he added on it. Consequently, the major criterion for compensation is not just ownership but also the extent of the value added on the land.

4.2.2 Mining regulating legislation

In Tanzania, mining activities are regulated by the Mining Act 2018. Unlike its predecessor the Mining Act 2010, it introduces limitations in carrying out mining activities with the view to guaranteeing food security to communities in the vicinity of mining activities. The Mining Act 2018 has provisions that are aimed at safeguarding food security in mineral operation areas. Under section 95 (1) (b) (ii) of the Mining Act 2018, safeguards are imposed to restrict carrying out mineral activities within 100 meters of the land that has been prepared for farming. Other restrictions provided under the same section are also imposed on land upon which crops were reaped in the preceding year unless otherwise consented by the owner or occupier of the land.

Therefore, the Mining Act 2018 seems to be very specific that it protects farming of crops and not agriculture in its widest sense. According to (United Republic of Tanzania & Ministry of Agriculture Food Security and Cooperatives, 2013), defines agriculture to include, farming, fisheries, forestry, hunting and animal keeping. Consequently, land for grazing stock, carrying out fishery projects, hunting for example is not protected under the Mining Act 2018. Livestock keeping and fisheries for example are not only some of the major sources of protein food stuff but also source of income to majority of communities residing near mining activities in Tanzania.

Notably, the Mining Act 2018 implied position with regard to livestock keeping in Tanzania seems to be founded on the Nyerere's Doctrine of land ownership noted above. Contrary, to the doctrine however, the practice of majority of livestock keeping communities in Tanzania rarely do prepare farms for grazing, rather they move from one location to another searching for pastures naturally occurring depending on the seasons. It is no wander that, it has been considered as a problem that fuel land conflicts in various regions in Tanzania and thus call for its eradication instead (United Republic of Tanzania & Ministry of Land, Human Settlement and Development, 1997) [64]. It is worthwhile to note that, at the African regional level, ACHPR has once decided a case in favour of pastoralist communities (Endorois) which were removed from their pastoral land to give a room to other development projects in Kenya. The decision by the ACHPR in the case of (*Centre for Minority Rights Development (Kenya) and Minority Rights Group (on behalf of Endorois Welfare Council) v. Kenya*, 2009) [1] was based on the fact that, the pastoral land was the only means to sustain the existence of such communities as it guarantees their subsistence through grazing of animals and other traditional activities.

Moreover, the Mining Act 2018 seems insufficient in guaranteeing food security to communities neighbouring mines owing to two major reasons. Firstly, according to (Marwa & Warioba, 2015) [37] occupiers of the land are excluded from deciding the allocation of mineral rights to potential investors into their locality. Mineral rights allocations are carried out between the government officials and the investors, occupiers of land are mere victims of land alienations and or re-settlement (Legal and Human Right Center & Zanzibar, 2016) [33]. Such a trend is reportedly to fuel conflicts between the mineral rights holders and the land occupiers who are supposed to give a vacant possession of the land for mining activities (Rights and Accountability in Development (RAID), 2017) [47].

Secondly, according to section 95 (1) (b) of the Mining Act 2018 the minister concerned with minerals retains the power to waive the need for the consent of the land occupiers and or owners even where the law requires it. Although the minister is to be advised by the Mineral Commission, it is worth to note that, the law does not set out criteria upon which the ministers' decision will be based and also, occupiers and or owners are not represented in the decision making process of waiving their consent. As noted from the above discussion under the laws governing land in Tanzania, this legal position is founded on the mandate the government enjoys over owners of land in acquiring land compulsorily for national interest, which include mining activities coupled with prompt compensation. Experience in Tanzania though indicates little, delayed and or no compensation is offered to land owners (Lange, 2011) [31], (United Republic of Tanzania, 2008) [62]. Consequently, communities neighbouring mines end up of being impoverished a fact that contributes to food insecurity.

Thirdly, the Mining Act 2018 does not provide for any remedy in case the right to farm is violated by potential mining companies. A provision on remedies would have strengthened the owners and or occupiers claim for their right to protect their farms and subsequently, guarantee food security. As noted above, in Botswana obligations on the part of mining companies are set in line with remedies to the communities neighbouring mines in case the obligations are violated.

4.3 Guaranteeing food security under extractive sector laws in Ghana

The extractive sector in Ghana is regulated under a number of legislation namely; the Constitution of Ghana 1962, the State Lands Act 1962, the Administration of Lands Act 1962 and the Minerals and Mining Act 2006 to name but a few. These laws are as they are analysed hereunder.

4.3.1 Land regulating legislation

Land tenure in Ghana may be explained in three fold, namely; customarily owned by the stool, skins and families; State land owned by the state and vested land. To begin with the customarily owned land, according to (Ministry of Land and Forestry (Ghana), 2003) [38] 'stool' and 'skins' represent

a geographical area with well-established local political and administrative system inclusive land ownership. Consequently, according to (Kassanga, 2001) [29] authorities in these areas, commonly chiefs usually hold land for and on behalf of the rest of the members of the stool who are natives or indigenous of such locality. Stool lands are regulated both under the Constitution and the Administration of Lands Act 1962 and are vested in the appropriate stool and not the President of Ghana. Article 267(1) of the Constitution of Ghana for example states as follows hereunder,

All stool lands in Ghana shall vest in appropriate stool on behalf of and in trust for the subjects of the stool in accordance with customary law usage.

According to (Larbi, 2008) [32] customarily owned lands forms major part (more than 70%) of all the lands in Ghana. Consequently, new large scale development projects like mining are likely to conflict with the customarily owned lands.

Another form of land tenure in Ghana is that of state lands. According to (Ministry of Land and Forestry (Ghana), 2003) [38] state lands are composed of all the land that is under the custodial ownership of the President of Ghana. Notably, land becomes under the custodial ownership of the President through compulsory acquisition of other lands for public purposes. Compulsory acquisition of land in Ghana is regulated under articles 20 (1-3) and 257 (1-2) of the Constitution of Ghana 1962, section 10 (1-2) of the Administration of Lands Act 1962 and sections 1 -2 of the State Lands Act 1962 which require there be effective compensation of the previous owners of the lands so acquired. In particular, article 258 (1) (a) of the Constitution of Ghana 1962 establishes Land Commission which among other functions are to deal with all the state lands for and on behalf of the president. The other form of land ownership is that of vested lands. According to (Kassanga, 2001) [29] vested lands include urban lands and other lands owned by the state for development strategies. In other literature vested lands is referred to as the split ownership (Larbi, 2008) [32]. Consequently, other incidences of vested lands are inclusive situations where the state takes control of the customary lands, where upon the communities remains beneficiaries in case the land is leased (Ministry of Land and Forestry (Ghana), 2003) [38].

Notably, despite the fact that large chunk of land is owned under the customary land tenure and thus vested under the respective stool and not the President, yet the lands so vested do not include the sub-soil. According to article 257 (6) of the Ghana's Constitution of 1962, all the minerals and valuables underneath the earth are vested in the president of Ghana for and on behalf and benefit of the peoples of Ghana. Consequently, upon discovery of minerals on land, the government may acquire the land for the extraction of minerals. Parallel with taking of the land however, article 20 (1) of the constitution guarantees protection of property rights and compensation upon its violation.

4.3.2 Mining regulating legislation

In Ghana, mining activities are regulated by the Minerals and Mining Act 2006. In this Act, occupiers and or owners of the surface rights over the area demarcated for mining activities retain their rights to farm and or graze their livestock. In particular, section 72 (3) of the Minerals and Mining Act 2006states as follows;

The lawful occupier of the land within the area subject to mineral right shall retain the right to graze livestock upon or to cultivate the surface of the land, if grazing or cultivation does not interfere with the mineral operations in the area.

Notably, section 110 (1), (2) (o) of the Minerals and Mining Act 2006 requires the responsible minister for minerals to enact regulations that shall regulate the coexistence of mining activities and other activities such as grazing. These regulations are expected to be the tool to effectively implement the directives of the Act. Notably, to date there are no such regulations in place. Despite absence of the regulations, experience from elsewhere, Australia for example indicates that coexistence of both mining and agriculture is possible and that agricultural activities benefit from the mining activities through the excessive underground water in the mineral operation areas (International Mining Development Centre, 2014) [25]. Consequently, instead of the mining companies pumping such waters to the surface as waste, such waters are used for irrigation in farms (International Mining Development Centre, 2014) [25], (Australia Mining, 2008) [8]. Also, it is noted above, in Botswana, mineral rights holders are obliged to protect mining areas such that, other uses such as farmers and heard of cattle may not be negatively impacted by the mining activities. However, there seems to be various thoughts on the possibility of mining operation to run concurrently with other activities like agriculture. Such a view shows that, mineral operation areas are not a right place for other activities owing to pollution both on land, waters and air (Loyd, 2017) [35].

In order to guarantee the land owners and or occupiers their right to use the surface land for food production activities alongside with mineral rights holders, section 72 (1) of the Minerals and Mining Act requires the mineral rights holders to respect the surface rights. Notably, no explicit obligation, such as to secure the mines against other human activities such as agriculture, is set out to be adhered by the mineral rights holders in relation to the surface rights users.

Despite absence of explicit obligation on the part of mineral rights holders to preserve the interest of farmers and livestock keepers to use the surface rights, the Minerals and Mining Act provides for remedial measures to be relied upon by the land owners and or occupiers wherever their surface rights are interfered by the mineral rights holders. It is worth to note here the wording of section 74(1) of the Ghana's Minerals and Mining Act 2006 seems to be a replica of the Botswana's Mines and Minerals Act 1999 on remedies granted wherever the surface rights are infringed by the mineral rights holders. Notably however, granting of remedies is indistinguishable to compensation that may not necessarily provide full protection to the communities neighbouring mines. According to (Adonteng-Kissi, 2017) [3] the compensation scheme used by the large scale mining companies to farmers in Ghana offer a very meagre compensation which does not reflect the actual value of the farms taken for mining activities instead. Local farmers are thus extremely impoverished a fact that impacts their access to food security [emphasis added] (Adonteng-Kissi, 2017) [3]. Notably, (Republic of Ghana, 2014) [46] recognizes the hardship caused by mining activities to neighbouring communities and is of the position that, there is a need to guarantee their sustainable livelihood. The policy further noted that, resettlement and compensation does not always guarantee such communities their sustainable livelihood

(Republic of Ghana, 2014) [46]. In furthering the desire to guarantee neighbouring communities their livelihood, the policy acknowledges the relation between mining and other anthropogenic activities such as farming and livestock keeping has not been smooth (Republic of Ghana, 2014) [46]. In order to strike a balance, it is pointed under the Policy that mining activities have to be carried out in a manner that will guarantee other land uses not only during mining activities but also during post mining operations (Republic of Ghana, 2014) [46]. Attempts have been made to carry out agriculture activities on areas rehabilitated after exhaustion of minerals. It is shown that, such areas depending on the level of rehabilitation may still be used as sources of food (Loyd, 2017) [35].

5. Distilled similarities and differences of the above discussed Acknowledgements

The analysis of the extractive sector related codes above generates points of similarities and differences as hereunder shown.

5.1 Similarities

Two major similarities may be depicted from the discussion above. Firstly, there seem to be efforts by all countries under review to recognise and offer a narrow, wide or wider protection of food production activities to communities neighbouring mines in the selected countries. While a narrow recognition and protection may be represented by restrictions of mining in crop production areas such as farms, near rivers and other water sources, a wide recognition and protection may be reflected in the coexistence of mining and agricultural activities on the same area. A wider recognition and protection is reflected in the ability to object the compulsory taking of land for mining activities and where mining are to take place, has to be carried simultaneously with agricultural activities. This signifies to some extent the beginning of harmonization of the legal frameworks that regulate extractive sector in African natural resources-rich states in recognising and protecting food production activities that safeguards food security to communities neighbouring mines.

Secondly, the common trend that may be depicted from the discussion above is the fact that, mining becomes a priority wherever it conflicts with the food production activities in some of the selected countries (Tanzania and Ghana). As may be noted, despite guaranteeing of surface rights to land owners and or occupiers both in Ghana and Tanzania, yet still explicitly, the extractive sector related codes in the respective countries recognizes that mining may take place and infringe such rights subject to compensation. In Tanzania, it is noted that, the Minister concerned with minerals retains power to waive the occupiers consent for mining activities to take place in his/her farm. Consequently, no law from these countries that gives food production activities higher priority over mining. This was earlier noted by (Wan, 2014) [66] who argues that allowing monetary compensation to farmers in Ghana for mining activities to take place, makes mining operation valuable than food production activities.

5.2 Differences

Three major differences are noted among the analysed extractive sector related codes from the respective countries above. Firstly, unlike Botswana's and Ghanaian extractive codes which recognizes simultaneity of mining activities and food production activities, the Tanzanian extractive code seems to be silent on this. In particular, in Tanzania, where food production activities are recognized, cattle rearing seem not covered under the purview of the extractive code, as opposed to experience in Ghana and Botswana.

Secondly, unlike the Tanzanian extractive code, the Ghanaian and Botswana's extractive codes seem to provide and list the nature of remedies land owners and or occupiers may claim against the mineral rights holders. Among the remedies, clearly show that compensation is not only on the available crops on land but also legitimate expectation of the owners and or occupiers.

Thirdly, the discussion above has shown that unlike Tanzania and Ghana, the Botswana's tribal land board may refuse to concede to the compulsory land acquisition by the state for mining activities. Arguably, such a move does not only show possibilities of considering other competing interests over the tribal land like food production to support their livelihood, but also indicates a transparency manner in which land is acquired for public purposes in Botswana. Ability to preserve land for food production from negative impacts of mining is one of the means through which food security may be achieved. Comparatively, according to (International Council on Mining and Metals (ICMM), 2003) [24] mining companies have voluntarily agreed not to carry out exploration and or mining activities in cites designated as World Heritage as a means to preserve their value. Consequently, given the value of food in our lives, it thus should be possible for mining companies and or states to have legal frameworks that explicitly prohibit exploration and mining activities in actual and potential food production areas.

6. Conclusion

This paper shows that among other human rights which are grossly impacted by extractive activities, the right to adequate food to communities neighbouring mines is inclusive. Owing to its value since without food no guarantee for life, it makes its discussion in this paper pertinent. It is more challenging to communities neighbouring mines to protect their food production activities given the fact that, most African countries do not protect such a right under their constitution as it is the case of the selected countries. However, the review shows that there is gradual recognition and protection of food production activities in mineral operation areas, and hence securing food for communities neighbouring mines. On the one hand, Tanzania is noted to have adopted a narrow recognition and protection of food production activities by limiting mining activities in farms. On the other hand, Ghana adopted a wide recognition and protection of food production by allowing simultaneous operation of mining activities and agriculture on the same area. Botswana however, seem to have adopted a much wider approach, firstly, recognition of the right to object compulsory land acquisition for large scale development like mining activities. Secondly, in areas where mining activities have to take place, then allowing effective regulation of simultaneous operation of mining and agriculture.

Notably, despite such variations among countries extractive sector related codes, the common trend signifies the desire to protect food production for communities neighbouring

mines. This trend of countries under this study (particularly that of Botswana) may influence other countries in Africa, that aspire a more robust extractive related codes that may provide a widest protection of the food production activities over the mining activities and offer a full guarantee of communities neighbouring mines their right to food security.

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