Chapter 31:
Regulating environmental impacts associated with mining in Uganda

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1 Introduction

According to Uganda's Constitution (Amendment) Act (2005) and the Mining Act (2003), a mineral is defined as any substance, other than petroleum, whether in solid, liquid or gaseous form, occurring naturally in or on the earth, formed by or subject to a geological process. This definition excludes clay, murram, sand or any stone commonly used for building or similar purposes. With the favourable business climate in Uganda for over two decades, many mining companies have taken up licences in the mining sector. Over the last 10 years, the sector has been growing positively peaking at 19.4% in FY 2006/2007. In FY 2009/2010, the sector grew by 12.8%. In terms of licences granted, 66 licences were issued in 1999 in the exploration and mining licence categories combined; while a total of 517 licences were issued by the beginning of 2010.[1]

The production, conversion, transportation and final use of minerals have direct and indirect environmental and social impacts.[2] The significant impacts of a mining project include water pollution, air pollution and noise pollution. Mining also causes direct and indirect damage to wildlife, contamination of soils, deforestation, land degradation, displacement of communities and disruption of livelihoods. Mining causes poverty through damaging subsistence agriculture, increases social inequality between those who benefit and those who do not, and promotes economic dependency that leads to vulnerability when mines scale down or close.

The regulatory framework for environmental protection in Uganda is scattered among various laws. The Constitution of Uganda (1995), as amended, requires Parliament to provide for measures to protect and preserve the environment. The Mineral Policy (2004) aims to minimise and mitigate the adverse social and environmental impacts associated with mineral exploitation. The National Environment Management Policy (1994) establishes a more comprehensive and integrated approach to environmental issues. The National Environment Act Cap 153 is the main law for conservation and management of the environment. The Mining Act (2003) regulates the distribution

1 Musoke (2015).
2 National Environment Management Authority (2004).

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of rights and benefits relating to mining. The Land Act Cap 227 provides for the land tenure systems, ownership, management, use and the compulsory acquisition of land. The Water Act Cap 152 guides the acquisition of the right to use water for mining activities. The National Forest and Tree Planting Act (2003) provides for the conservation, sustainable management and development of forests. The Mining Regulations (2004) provide for environmental protection in mining areas. The National Environment (Environmental Impact Assessment) Regulations (1998) apply to all projects for which and environmental impact assessment (EIA) is required. The National Environment (Minimum Standards for Discharge of Effluents into Water or Land) Regulations (1999) control the discharge of effluent or waste on land or into the aquatic environment.

Environmental protection is the responsibility of several institutions. The Ministry of Energy and Mineral Development directs and controls the mining sector. The Ministry of Water and Environment develops, manages and regulates water and environmental resources. The National Environment Management Authority (NEMA) coordinates, monitors, regulates and supervises environmental management in the country. The local governments are responsible for the protection of the environment at the district level. The Environmental Protection Police Unit enforces environmental laws and prevents the degradation of protected areas.

There are several challenges facing environmental protection in the mining sector. These include limited enforcement measures in support of the environmental and social regulatory framework, informality, and marginalisation of artisanal and small-scale miners. This chapter analyses the effectiveness of the environmental and social regulatory framework for the protection of the environment in the mining sector in Uganda.

2 Overview of the mining sector in Uganda

Uganda has mineral resources in different parts of the country. There are several potential mineral formations, most importantly: gold in the Karamoja Region and other areas; copper in Kasese; extensive marble formations in Moroto in the eastern part of the country; phosphates in Tororo; and huge deposits of iron ore in central Uganda. New iron smelting factories are being set up. The Government's negotiation for iron ore mining is underway and commercialising this mineral is a key government priority for 2018.

Uganda's mining sector is a mix of large-scale mining with officially registered mining companies (both local and international) and artisanal small-scale miners. Artisanal and small-scale mining (ASM) in Uganda provides a source of livelihood for almost 200,000 men and women, over half of whom are engaged in production of industrial minerals to serve the construction demands of the country's rapidly growing

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population (3.3% per annum).[3] At least 20,000 of these miners are engaged in gold mining through artisanal and small-scale gold mining (ASGM), which has become a relatively important economic activity, mostly in the regions of Busia and Karamoja in the east and northeast, as well as in the Kigezi and Buhweju goldfields across the west and southwest of the country. Over the past decade, escalating gold prices, coupled with high population density and resultant land pressures (across the west and southwest), and prolonged droughts, tribal conflict and loss of traditional pastoral livelihoods (in the northeast) are rapidly attracting growing numbers into ASGM. The gender dimension of ASGM also seems to be shifting, depending on local circumstances. Only 10-25% of miners are women in ASGM areas in the west and southwest where farming continues to thrive. However, in the comparatively impoverished northeast, women's participation increases to approximately 50-60% and is as high as 90% at some ASGM sites.

ASM is unsufficiently regulated and hazardous.[4] While ASM has the potential to contribute to more sustainable livelihoods, the strategies, poor working conditions, accidents and diseases that are associated with ASM can reduce worker productivity and income for dependents, burdening families and communities. Artisanal and small-scale miners are usually engaged in heavy and precarious manual labour and frequently use rudimentary or unsafe mining and mineral processing techniques. In addition, the impacts of ASM activities often extend beyond the miners themselves to their families and communities who are exposed to environmental pollution and hazards either through their participation in various parts of the mining commodity chain or because of their residential proximity to mining activities.

Undoubtedly, the single most pressing issue impacting health and safety in the ASM sector is the use of mercury by artisanal and small-scale gold miners, due to its harmful effects on both human health and the environment. The lack of reliable data and regulatory oversight of ASM activities present obvious obstacles to improving conditions where the health and safety of miners, their communities and the environment are at risk.[5]

3 Environmental impacts of mining

Mining has direct and indirect impacts on the environment from the exploration to the closing stage. The direct impacts are through the value chain activities such as prospecting, exploration, site development, ore extraction, mineral dressing, smelting, refining/metallurgy, transportation and post-mining activities. The indirect impacts are

3 UNEP (2012: 6).
4 Maier et al. (2014: 86).
5 Hentschel (2002: 41).

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through the changes in the socio-cultural aspects of communities surrounding mining areas.

3.1 Adverse environmental impacts

3.1.1 Impacts on water resources

Perhaps the most significant impact of a mining project is its effects on water quality and availability of water resources within the project area. Key questions are whether surface and groundwater supplies can remain fit for human consumption and whether the quality of surface waters in the project area can remain adequate to support indigenous aquatic life and terrestrial wildlife. The specific impacts of mining are described below.

3.1.1.1 Acid mine drainage and contaminant leaching

The potential for acid mine drainage is a key issue. Acid mine drainage is considered one of mining's most serious threats to water resources. Acid mine drainage refers to the outflow of acidic water from a mining site.[6] In most cases, this acid comes primarily from oxidation of iron sulfide (FeS2, also known as pyrite or 'fool's gold'), which is often found in conjunction with valuable metals. A mine with acid mine drainage has the potential for long-term devastating impacts on rivers, streams and aquatic life. Acid mine drainage is a concern at many metal mines, because metals such as gold, copper, silver and molybdenum are often found in rock with sulfide minerals. When the sulfides in the rock are excavated and exposed to water and air during mining, they form sulfuric acid. This acidic water can dissolve other harmful metals in the surrounding rock. If uncontrolled, the acid mine drainage may run off into streams or rivers or leach into groundwater. The abandoned Kilembe copper mine in western Uganda is a source of contaminants, mobilised from mine tailings into the River Rukoki flowing through a belt of wetlands into Lake George. In Kilembe, the mining of copper left a legacy of metalliferous material (tailings, rock fill and rock waste) dumped within a mountain river valley. Up to 15 million tonnes of waste were generated during the processing of the copper-cobaltiferous pyrite ores. The exposure of the sulfidic components in the wastes to an oxic environment (especially under tropical weathering conditions) leads to complex oxidation processes, resulting in a marked increase of acidity.[7] Acid mine drainage may be released from any part of the mine where sulfides

6 David (2010).
7 Owor & Muwanga (2007: 1065).

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are exposed to air and water, including waste rock piles, tailings, open pits, underground tunnels and leach pads. If mine waste is acid-generating, the impact on fish, animals and plants can be severe. Many streams impacted by acid mine drainage have a pH value of 4 or lower – similar to battery acid. Fish, animals and plants are unlikely to survive in streams such as this.

3.1.1.2 Erosion of soils and mine wastes into surface waters

Land use without adequate soil erosion control measures is continuously increasing the risk of soil erosion by water in Uganda.[8] For most mining projects, the potential of soil and sediment eroding into and degrading surface water quality is a serious problem. Because of the large area of land disturbed by mining operations and the large quantities of earthen materials exposed at sites, erosion can be a major concern at hard rock mining sites. The mining and processing of copper in Kilembe, Western Uganda, from 1956 to 1982 left over 15 metric tonnes of tailings containing cupriferous and cobaltiferous pyrite dumped within a mountain river valley. A pilot study was conducted to assess the nature and extent of risk to local populations from metal contamination arising from these mining activities. The results showed that tailings, containing higher concentrations of carbon monoxide (Co), copper (Cu), and nickel (Ni) as compared with world average crust values, had eroded and contaminated local soils. Local water supplies were contaminated, with Co concentrations that exceeded Wisconsin (US) thresholds in 25% of domestic water supplies and 40% of Nyamwamba River water samples.[9] Major sources of erosion/sediment loading at mining sites can include open pit areas, heap and dump leaches, waste rock and overburden piles, tailings piles and dams, haul roads and access roads, ore stockpiles, vehicle and equipment maintenance areas, exploration areas and reclamation areas.

Beyond the potential for pollutant impacts on human and aquatic life, increased velocities and run-off volumes lead to downstream flooding, scouring of stream channels, and removal of vegetation and soil from the affected area. Once the soils have been removed, it is difficult for the slope to be revegetated either naturally or with human assistance.

8 Karamage et al. (2017: 1).
9 Mwesigye et al. (2016: 366).

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3.1.1.3 Impacts of tailing impoundments, waste rock, heap leaching, and dump leaching facilities

The impact of wet tailings impoundments, waste rock, heap leaching and dump leaching facilities on water quality can be severe.[10] These impacts include contamination of groundwater beneath these facilities and surface waters. Toxic substances can leach from these facilities, percolate through the ground, and contaminate groundwater, especially if the bottom of these facilities is not fitted with an impermeable liner. When wet tailings impoundments fall, they release large quantities of toxic water that can kill aquatic life and poison drinking water supplies for many miles downstream of the impoundment.

3.1.1.4 Impacts of mine dewatering

When an open pit intersects the water table, groundwater flows into the open pit. For mining to proceed, mining companies must pump and discharge this water to another location. Pumping and discharging mine water causes a unique set of environmental impacts. Impacts from ground water drawdown may include reduction or elimination of surface water flows; degradation of surface water quality and beneficial uses; degradation of habitat; reduced or eliminated production in domestic supply wells; and water quality/quantity problems associated with discharge of the pumped groundwater back into surface waters downstream from the dewatered area. Dewatering from rock faces in mine shafts, quarries or gravel pits often contains abrasives such as sand, clay particles, drill cuttings and other potentially damaging objects, and the pH value is usually very low. The impacts can last for many decades.

10 Tailings impoundments are ponds used to store the waste made from separating minerals from rocks. Waste rock is the primary and most prevalent waste generated by many mining operations and consists of rock and target minerals in concentrations too low for economic recovery, and is removed along with the ore. Heap leaching is the process of extracting precious metals like gold, silver, copper and uranium from their ore by placing them on a pad (a base) in a heap and sprinkling a leaching solvent, such as cyanide or acids over the heap. Dump leaching is carried out on rejected low grade material that during normal mining has been put aside in big dumps at the mine site. The particle size of the material is generally big and the ore is processed for many years by sprinkling acidified water on the dump surface. The leach solution percolates through the dump and is collected in ditches at the base of the dump. This might become a source of environmental pollution if leach escapes collection and flows into natural water-supplies.

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3.1.2 Impacts of mining projects on air quality

Mining operations mobilise large amounts of material, and waste piles containing small-size particles that are easily dispersed by the wind. The largest sources of air pollution in mining operations are:

- Particulate matter transported by the wind as a result of excavations, blasting, transportation of materials, wind erosion (more frequent in open-pit mining), fugitive dust from tailings facilities, stockpiles, waste dumps and haul roads.
- Gas emissions from combustion of fuels in power generation installations, and drying, roasting and smelting operations. Many producers of precious metals smelt metal on site, prior to shipping to off-site refineries.
- Mobile sources of air pollutants include heavy vehicles used in excavation operations, cars that transport personnel at the mining site, and trucks that transport mining materials. Even though individual emissions may be relatively small, collectively these emissions can be of real concern.

According to the World Health Organisation, more than 8 million people die around the world each year as a result of living in a polluted environment. Pollution is the biggest killer in developing countries. Contaminated air claims millions of lives every year. In Uganda, the effects of air pollution are becoming more and more noticeable. Air pollution has become one of the biggest challenges facing the country, and mining is among the leading causes of air pollution. Therefore, air pollution can cause serious damage to people's health and to the environment.[11]

3.1.3 Noise pollution

Noise pollution associated with mining may include noise from vehicle engines, loading and unloading of rock into steel dumpers, chutes, power generation and other sources. Cumulative impacts of shovelling, ripping, drilling, blasting, transport, crushing, grinding and stock-piling can significantly affect wildlife and nearby residents. Machine operations associated with Limestone mining at the Dura Quarry site in Queen Elizabeth National Park, Kamwenge District, generate significant noise. In addition, the quarry management run four pumps that operate 24 hours a day generating much noise, beyond the permissible levels. This threatens the animal populations, causing migrations and disturbance to animal breeding, among other impacts.[12]

Vibrations are associated with many types of equipment used in mining operations, but blasting is considered the major source. Vibration has affected the stability of infrastructure, buildings and homes of people living near large-scale open-pit mining

11 Serginho (2015).
12 National Association of Professional Environmentalists (2015).

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operations. According to a study commissioned in 2000 by the European Union,[13] shocks and vibrations as a result of blasting in connection with mining can lead to noise, dust and collapse of structures in surrounding inhabited areas. The animal life, on which the local population may depend, might also be disturbed.

3.1.4 Impacts of mining projects on wildlife

Wildlife is a broad term that refers to all plants and any animals (or other organisms) that are not domesticated. Mining affects the environment and associated biota through the removal of vegetation and topsoil, the displacement of fauna, the release of pollutants and the generation of noise.

3.1.4.1 Habitat loss

Wildlife species live in communities that depend on each other. Survival of these species can depend on soil conditions, local climate, altitude and other features of the local habitat. Mining causes direct and indirect damage to wildlife. The impacts stem primarily from disturbing, removing and redistributing the land surface. Some impacts are short-term and confined to the mine site. Others may have far-reaching and long-term effects. In Uganda, Hima Cement (U) Ltd operates the Dura Quarry that is located in Queen Elizabeth National Park. The large disturbances caused by mining in the Dura Quarry have disrupted the environment around the quarry, adversely affecting the aquatic habitats (streams and rivers), terrestrial habitats (grasslands and forests) and riverine wetlands[14] that many organisms rely on for survival.

3.1.4.2 Habitat fragmentation

Habitat fragmentation occurs when large areas of land are broken up into smaller and smaller patches, making dispersal of native species from one patch to another difficult or impossible, and cutting off migratory routes. Isolation may lead to the local decline of species or lead to behaviour that has genetic consequences, such as inbreeding.

13 MINEO Consortium (2000).

14 Riverine wetlands are those systems that are contained within a channel (such as a river, creek or waterway) and their associated streamside vegetation.

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3.1.5 Impacts of mining projects on soil quality

Mining can contaminate soils over a large area. Agricultural activities near a mining project may be particularly affected. Mining operations routinely modify the surrounding landscape by exposing previously undisturbed earthen materials. Erosion of exposed soils, extracted mineral ores, tailings and fine material in waste rock piles can result in substantial sediment loading to surface waters and drainage ways. In addition, spills and leaks of hazardous materials and the deposition of contaminated windblown dust can lead to soil contamination.

Environmental soil-related risks generally fall into two categories, namely contaminated soil resulting from windblown dust and soils contaminated by chemical spills and residues. The inherent toxicity of the dust depends upon the proximity of environmental receptors and the type of ore being mined.

In Uganda, mining activities generate wastes that are usually deposited on the surface and abandoned after closure of the mines. Owing to pollution, the soils close to wastes are usually degraded. Near Queen Elizabeth Conservation Area (QECA), 1.13 million metric tonnes of pyrite materials were dumped from 1956 to 1982 to form a large cobaltiferous stockpile. which has remained devoid of vegetation since the suspension of mining activities in 1982. This has led to the wide dispersal of pyrite materials laden with heavy metals into gardens and surrounding aquifers at Kilembe and into the QECA.[15] Therefore, soils contaminated by chemical spills and residues at mine sites may pose a direct contact risk when these materials are misused as fill materials, or for ornamental landscaping and soil supplements.

3.1.6 Deforestation

With open cast mining the overburden, which may be covered in forest, must be removed before the mining can commence. Although the deforestation due to mining may be small compared to the total amount, it may lead to species extinction if there is a high level of local endemism.

Reducing deforestation to conserve biodiversity and regulate climate is a globally significant goal,[16] yet deforestation rates remain high.[17] Demand for minerals also poses significant risks, particularly where mineral resources and forests co-exist in developing countries that seek revenue from mining but lack regulatory oversight and enforcement capability.[18] Mining causes deforestation both within and beyond lease

15 Ssenku et al. (2014: 191-198).
16 Foley (2015: 570-574).
17 Hansen (2013: 850-853).
18 Murguía et al. (2016: 409).

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boundaries. Within leases, forests are cleared for mineral extraction, processing and infrastructure development.[19] However, deforestation may extend for substantial distances beyond lease boundaries, due to the combined effects of land-use displacement, urban expansion, development of commodity supply chains, and concerns over mine waste discharge and spills. It is essential to understand and mitigate mining-induced deforestation if tropical forests are to be conserved, yet the full extent of these impacts is yet to be quantified.

3.1.7 Land degradation

The mining and processing of mineral resources generally has a considerable impact on land. Despite the fact that Uganda has a large percentage of arable land, land degradation is a substantial problem in the country. It is estimated that 4-12% of gross national product is lost as a result of environmental degradation. The percentage of land affected by degradation ranges from 90% in Kabale to 20% in Masindi.[20] Land degradation tends to extend beyond the excavation and surface plant areas of both surface and sub-surface mines. Large mining operations disturb the land by directly removing material in some areas and dumping waste in others, thus changing the topography.[21] Mining tends to increase the susceptibility of the land to erosion, and increase the occurrence of landslides, mudflow and slumps as a result of the exploration, processing and miscellaneous mining activities.[22]

The extraction of minerals especially by the open cast process leaves undesirable effects on the land surface. Indeed, mining operations have been envisaged by environmentalists and conservationists alike as causing some of the most devastating and far-reaching consequences to the environment, especially land degradation.[23]

3.2 Adverse social impacts of mining

3.2.1 Displacement of communities and disruption of livelihoods

The displacement of settled communities is a significant cause of resentment and conflict associated with large-scale mineral development. Entire communities may be uprooted and forced to shift elsewhere, often into purpose-built settlements not necessarily of their own choosing. Besides losing their homes, communities may also lose

19 Alvarez-Berríos & Aide (2015).
20 Olson & Berry (2003: 3).
21 Mbaya (2013: 145).
22 Ibid.
23 Ibid.

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their land, and thus their livelihoods. Community institutions and power relations may also be disrupted. Displaced communities are often settled in areas without adequate resources or are left near the mine, where they may bear the brunt of pollution and contamination.

While Uganda's mining laws require a surface rights agreement to be negotiated with landowners prior to active mining and payments of royalties to lawful landowners once revenues flow, the law does not require any communication or consent from the local population during exploration work. Despite Uganda's land laws recognising customary land ownership, the Land Board is hesitant to grant any such certificates anywhere in the country. Several extractives companies have gone to Karamoja in northeastern Uganda to seek natural resources, particularly gold and marble, but these companies have consistently failed to secure the free, prior and informed consent from the local communities before they start operations on communal lands. This has led to displacement of communities and disruption of livelihoods.[24] Community displacement can be particularly disastrous for indigenous communities who have strong cultural and spiritual ties to the lands of their ancestors, and who may find it difficult to survive when these are broken.

3.2.2 Increased poverty through damaging subsistence agriculture

There is concern about the increased competition between mining and agriculture. Mining gradually destroys agricultural lands as well as crop production, resulting in a net food deficit. The fast shift of labour from agriculture to mining has consequently led to a fall in the general level of food production. In Lubaali-Kayonza-Kitumbi Sub County – Mubende District, most people were subsistence farmers who used to earn their livelihood from growing maize, beans, sweet potatoes and cassava. The area has turned into a settlement for artisanal miners whose population comprises thousands of people – women, men, teenage girls and boys, and a few babies.[25] Farmlands in such areas are usually taken over by estate developers as well as mining support companies who have also acquired vast lands for construction and other purposes. The result is that there is always a reduction in food production in those areas and the need for food to be brought from distant areas at exorbitant prices leading to poverty.

24 Emerson (2014).
25 *The Independent* (2016).

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3.2.3 Increased inequalities

Mining increases inequality within communities between those who benefit directly from the mine and those who do not. There is an inherent tension between local and national rights to mineral wealth and the other benefits brought about by mining. People living near mines or adversely affected by them demand that they should be compensated for any inconvenience, hardship or loss of opportunity suffered. But the question is, should they receive a larger share of the benefits? If so, how should that share be determined?

In Uganda, mining revenues are generated through a mix of consistently applied corporate income taxes and competitive royalties. Royalties are shared between national and local budgets. A variable tax rate based on profit addresses the unique nature of mineral profits. However, royalty payments often do not reach landowners, and payment problems are compounded by the complex nature of land ownership. Royalty payments are distributed with limited transparency via the national budget and the revenue from mining generally does not translate into long-term social and economic development in communities located near mining projects.[26] Sustainable development of the local community requires an equitable sharing of benefits. If there is obvious inequity, there will be strife, which impedes the development process.

3.2.4 Economic dependency

Mining causes economic dependency that makes local communities vulnerable when the mines close or scale down operations. In addition, all mines have a finite life span, and it is difficult to sustain the direct benefits they bring to communities in terms of wages and improved welfare after mine closure. The infrastructure that develops with a mine may be scaled down or neglected when the mine closes unless provision has been made for maintenance and upkeep well in advance. Communities are particularly vulnerable where linkages with other sectors of the economy are weak.

4 Regulatory framework for environmental and social protection in the mining sector

Uganda's regulatory framework for environmental and social protection in the mining sector is contained in policies, acts, regulations and guidelines.

26 Crawford et al. (2015: 32).

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4.1 Environmental and social policy framework for the mining sector

There are key policies that provide guidance for environmental and social aspects in the mining sector. The first one is the Mineral Policy (2001) that is the main policy informing mining in Uganda. Its main aim is to develop the mineral sector to enable it to contribute to sustainable economic and social growth by creating gainful employment and income, particularly to the rural population.[27] It has a specific section on social and environmental assessment. Under Objective 4 of the Policy, it seeks to minimise and mitigate the adverse social and environmental impacts of mineral exploitation. The strategies relating to this objective include the following: strengthening the environmental monitoring unit of the Ministry; carrying out sensitisation of the society on the impact of mining on the environment; promoting the application of environmentally friendly technologies and methods in mineral exploitation; ensuring health and safety in all stages of mineral development through regulations and education; and undertaking responsibility for the clean-up operations of past negative mining environmental impacts.

The second policy is the National Environment Management Policy (1994), which is being revised. The Policy recognises that Uganda faces a number of environmental issues including: soil degradation; deforestation; loss of biodiversity; increasing pollution; and environmentally-related diseases as a result of mining. These problems are compounded by poverty, low environmental awareness and low levels of technology. The Policy aims to address these issues by establishing a more comprehensive and integrated approach to environmental issues. The Policy, therefore, creates an effective monitoring and evaluation system to track the impacts of mining on the environment; attempts to promote a new sustainable conservation culture; and aims to harmonise local and national policy efforts in respect of environmental issues.

The Policy provides strategies to guide and assist decision makers and resource users in determining priorities in the national context and also at the sectoral, private sector and individual level. It provides for integration of environmental concerns in the national socio-economic development planning process, avenues for intersectoral cooperation, and comprehensive and coordinated environmental management. As a result, environmental management is now a key criterion for national socio-economic development decisions.

The objective of the Policy is to control the pollution of water, land and air from domestic, industrial and other emissions and discharges, and to promote environmentally sound management of wastes and hazardous materials. The strategies include establishing environmental standards for permissible levels of pollution; strengthening institutional and technical capacities for waste management; enhancing institutional

27 Ministry of Energy and Mineral Development (2001).

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coordination; and maintaining regular environmental audits to ensure the adoption of environmentally sound practices.

4.2 Legal framework for environmental and social regulation in the mining sector

4.2.1 Ugandan legal framework for environmental and social regulation in the mining sector

The legal framework provides different mechanisms for regulating mining in Uganda. The major ones are described below.

4.2.1.1 Public trust doctrine

The public trust doctrine refers to the responsibility of the state to hold property rights in trust for the benefit of the citizens of the state. This doctrine is important as a shield for protecting the environment and linking environmental protection of the biotic community with resource utilisation. The Constitution of Uganda (1995) (as amended) recognises the public trust doctrine. The National Objective XIII imposes an obligation on the Government to protect important natural resources, including land, water, wetlands, minerals, oil, fauna and flora on behalf of the people of Uganda.[28] Article 237(2)(b) provides that the Government, or a local government as determined by Parliament by law, shall hold in trust for the people and protect natural lakes, rivers, wetlands, forest reserves, game reserves, national parks and any land to be reserved for ecological and tourist purposes for the common good of all citizens. Further, Article 244 specifically provides for the public trust doctrine in relation to minerals. It states that subject to Article 26 of the Constitution, the entire property in, and the control of, all minerals and petroleum in, on or under any land or waters in Uganda are vested in the Government on behalf of the Republic of Uganda. The article also provides that, Parliament shall make laws regulating: (i) the exploration of minerals and petroleum; (ii) the sharing of royalties arising from mineral and petroleum exploration; (iii) the conditions for payment of indemnities arising out of exploration of minerals and petroleum; and (iv) the conditions regarding the restoration of derelict lands. It is further provides that minerals, mineral ores and petroleum shall be exploited taking into account the interest of the individual landowners, local governments and the Government.

The Mining Act, which is the main act for regulating mining, also provides for the public trust doctrine. Under Section 3, the entire property in and control of all minerals

28 Constitution of the Republic of Uganda (1995).

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in, on or under any land or waters in Uganda are vested in the Government, notwithstanding any right of ownership of or by any person in relation to any land in, on or under which any such minerals are found.

The public trust doctrine is further emphasised under Section 44 of the Land Act that provides that the Government or a local government shall hold in trust for the people and protect natural lakes, rivers, groundwater, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land reserved for ecological purposes for the common good of the citizens of Uganda.

4.2.1.2 Environmental and social assessment

As noted above, mining activities can have adverse effects on the environment. Therefore, any type of mining activity demands an environmental and social impact assessment (ESIA) to assess potential for both positive and negative impacts to the environment and to use the produced results to mitigate the negatives and optimise the positives. Uganda has specific laws that require ESIA for activities, such as mining, that have an impact on the environment.

Section 19 of the National Environment Act Cap 153 requires that an EIA be undertaken by a developer of a project described in the Third Schedule to the Act (including mining),[29] and requires the developer to submit a project brief to the lead agency, in the prescribed form and giving the prescribed information. An EIA is to be undertaken by the developer where the lead agency, in consultation with the executive director, is of the view that the project may have an impact on the environment; is likely to have a significant impact on the environment; or will have a significant impact on the environment.

The details on how an EIA is to be conducted are provided under the National Environment (Environmental Impact Assessment) Regulations (1998). These Regulations apply to all projects for which an EIA is required (all projects included in the Third Schedule to the National Environment Act Cap. 153),[30] including mining. Mining includes quarrying and open-cast extraction of precious metals, diamonds, metalliferous ores, coal, phosphates, limestone and dolomite, stone and slate, aggregates, sand and gravel, clay and exploration for the production of any form of petroleum.

Regulation 3(2) prohibits any developer from implementing a project for which an EIA is required unless the EIA has been concluded in accordance with the Regulations. The Regulations also require every licensing authority in Uganda to request the

29 Projects to be considered for EIA under the Third Schedule include mining; which includes quarrying and open-cast extraction of precious metals, diamonds, metalliferous ores, coal, phosphates, limestone and dolomite.

30 Regulation 3(1)(a).

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production of a certificate of approval of EIA from any developer before issuing a licence for any project. An inspector is authorised to enter any land, premises or other facility at any reasonable time to determine whether a project has complied with the requirements for EIA.

Regulation 5(1)(h) provides that a developer must prepare a project brief stating in a concise manner: the environmental effects of the materials, methods, products and by-products of the project; and how they will be eliminated or mitigated.

Where it is discovered that a proposed mining project will have no significant impact on the environment, or that the project brief discloses sufficient mitigation measures to cope with the anticipated impacts, the project may be approved. However, where it is discovered that the project will have significant impacts on the environment and that the project brief discloses no sufficient mitigation measures to cope with the anticipated impacts, the developer is required to undertake an environmental impact study.[31]

The Regulations promote public participation within the environmental impact study. Regulation 12 provides that the developer of a mining project must take all measures necessary to seek the views of the people in the communities that may be affected by the project during the process of conducting the study. The developer is required to: publicise the intended project, its anticipated effects and benefits through the mass media in a language understood by the affected communities for a period of not less than 14 days; hold meetings with the affected communities to explain the project and its effects; and ensure that the venues and times of the meetings are convenient for the affected persons and the local council leaders.

Section 108 of the Mining Act (2003) requires every holder of an exploration licence or a mining lease to carry out an EIA for his or her proposed operations in accordance with the National Environment Act Cap 153. A holder of the licence or mining lease must commence with the proposed operations only after securing a certificate of approval of his or her proposed operations from NEMA. The holder of the licence or mining lease is required to carry out an annual environmental audit and to keep records describing how far the operations conform to the EIA. Section 109 provides that in every mining licence and lease there must be a condition requiring the licence holder to take all necessary steps to uphold environmental standards and to take the necessary steps to ensure the prevention and minimisation of pollution of the environment. The licence or mining lease holder is required to submit to the Commissioner and the Executive Director of NEMA an environmental management plan indicating the type and quality of wastes to be generated from any exploration and mining operations, and the method of its final disposal.

The Mining Regulations (2004) made under Part XI of the Mining Act provide for environmental protection in mining areas. Regulation 64(1)(e) requires a holder of an

31 Regulation 9.

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exploration licence to prepare a project brief before commencement of work, indicating the likely environmental effects of the materials to be used, the products and by-products to be generated, the duration of the environmental effects, and measures ensuring their prevention and mitigation.

The Regulations provide for the review of project briefs in a manner specified under the guidelines for EIA in the mineral sector developed by NEMA.[32] Where the environmental impacts are likely to be significant and the mitigation measures are not readily prescribed, the Commissioner consults with NEMA and then calls on the holder of the exploration licence in question to carry out an EIA.

Under Regulation 66, there is a requirement for the submission of a costed environmental restoration plan. The holder of an exploration licence or a mining lease is required to submit to the Commissioner a costed environmental restoration plan, which addresses restoration of worked-out areas. The holder of an exploration licence or a mining lease may be requested to deposit with the Commissioner an environmental bond commensurate with the cost of implementing the environmental restoration plan submitted to the Commissioner. The holder of an exploration licence or mining lease cannot commence development under his or her exploration licence or mining lease unless approval of the environmental restoration plan is granted.

The regulations make it a requirement to include in every exploration licence or mining lease granted under the Act, a condition that the holder of the exploration licence or mining lease shall submit a self-monitoring plan of the project implementation and the environmental quality of the surroundings of the project.[33] Where the impacts are worse than anticipated, the holder of the exploration licence or the mining lease shall propose to the Commissioner and the Executive Director of NEMA new mitigation measures for improved environmental conservation. The Commissioner, after consultation with the Executive Director of NEMA, shall advise the holder of the exploration licence or mining lease on the necessary remedies to correct any negative impacts of the activities on the environment. NEMA can demand that applicants undertake an environmental and social impact assessment whereby they have to show evidence of an agreement or the consent of the landowner before they are issued with NEMA certificates that are a pre-requisite to obtaining a mining lease to undertake mining.

Section 38 of the National Forestry and Tree Planting Act requires a person intending to undertake a project or activity, which may, or is likely to have, a significant impact on a forest, to undertake an EIA. Section 54(1)(g) empowers the National Forestry Authority, in conjunction with other regulatory authorities, to control and monitor industrial and mining developments in central forest reserves for their protection.

32 Regulation 65(3).
33 Regulation 67(1).

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4.2.1.3 Land acquisition and compensation

The right of government to acquire land compulsorily for public purposes, including but not limited to mining purposes, is commonly recognised in most jurisdictions. Equally recognised is the obligation to compensate the deprived landowners adequately for the loss of their land. Access to land for the purpose of mineral exploration and mining continues to be an issue for the mining industry in Uganda.

Article 26(2) of the Constitution of Uganda (1995) (as amended) empowers the Government to acquire private land in a compulsory manner, provided that the following conditions are satisfied:

(a) the taking of possession or acquisition is necessary for public use or in the interest of defence, public safety, public order, public morality or public health; and

(b) the compulsory taking of possession or acquisition of property is made under a law which makes provision for –

  (i) prompt payment of fair and adequate compensation, prior to the taking of possession or acquisition of the property; and

  (ii) a right of access to a court of law by any person who has an interest or right over the property.

Section 2 of the Land Acquisition Act (1965) empowers the responsible Minister to authorise a person to ascertain the suitability of any land acquisition for a public purpose. The Government is required to pay compensation to any person who suffers damage as a result of the land acquisition process, and any dispute as to the compensation payable is referred by the Attorney General to the court for a decision.

Section 82 of the Mining Act (2003) clearly spells out the need for adequate compensation of surface right owners before mining starts. The landowner is entitled to compensation for financial loss, hardship or inconvenience resulting from exploration through an exploration licence. This may be negotiated directly between the landowner and operator, or be determined by a government valuer. It is only when the surface right owner fails to cooperate or if an agreement cannot be reached that the Government opts for compulsory acquisition in national interest. It is a last resort after failed negotiations and it is done in the public interest because minerals are national resources needed to develop the economy for everyone to benefit.

The provisions above imply that a prospecting licence holder is required to obtain a social permit in addition to the mining lease prior to commencing their operations.

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4.2.1.4 Restoration order

A restoration order is a measure directing a person to restore the environment to its prior condition before it was degraded. The Mining Act[34] provides for environmental restoration plans to be included in every exploration licence or mining lease for the exploration or mining of areas that may be damaged or adversely affected by exploration or mining operations. These plans must be submitted to the Commissioner and should be consistent with the local physical, environmental and climatological conditions. The Commissioner[35] is empowered under Section 111 to direct the person who was the last holder of an exploration licence or mining lease to protect the environment by giving effect to any conditions in his or her environmental restoration plan. If a person without reasonable excuse fails or neglects to comply with the Commissioner's order, he or she is liable on conviction to pay a fine of not less than 100 currency points or to imprisonment for a term not less than two years or both; and, in the case of a corporate body, to a fine of not less than 500 currency points.

Section 67 of the National Environment Act provides NEMA with the power to issue an environmental restoration order requiring a person to restore the environment to the condition it was in before the damage causing activity commenced. The restoration order may also be issued to prevent a person from taking any action that may harm the environment; or to levy a charge on a person that represents a reasonable estimate of the cost of any action taken by an authorised person to restore the environment to its previous condition.[36] This order can be used by NEMA to restore the environment to the condition it was in before mining activities commenced.

4.2.1.5 Maintenance of water quality and pollution control

The Constitution of Uganda (1995) (as amended) provides for the right to a clean and healthy environment.[37] Therefore, it is the duty of each person to protect the environment and this includes bringing an action for breach of the right to a clean and healthy environment. The Constitution provides that the violation of any human right entitles any person to sue for the redress of such violation, even if the violation did not affect the plaintiff personally.[38]

The Water Act Cap. 152 prevents pollution of water by mining activities. Section 20 provides that a holder of a permit issued under the Act must not cause or allow any

34 Section 110 of the Mining Act (2003).
35 According to Section 2 of the Mining Act (2003), Commissioner means "the Commissioner for the Geological Survey and Mines Department appointed under Section 13 of this Act".
36 Section 67 of the National Environment Act, Cap 153.
37 Article 39.
38 Article 50.

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water to be polluted; shall prevent damage to the source from which water is taken or to which water is discharged after use; shall take precautions to ensure that no activities on the land where water is used result in the accumulation of any substance that may render water less fit for the purpose for which it may be reasonably used; shall observe conditions prescribed by regulations made under the Act; and shall observe any special condition that may be attached to the permit.

The Water Act also creates sanctions applicable to the pollution of water by mining activities. Section 31 provides that a person who pollutes water or causes water to be polluted; commits an offence and is liable to pay the cost of remedying the damage caused and reinstating the environment, as far as is possible, to the condition that would have existed if the damage was not caused.

The National Environment (Minimum Standards for Discharge of Effluents into Water or Land) Regulations (1999) made under the Water Act deter pollution in the mining areas. They prohibit discharge of effluent or waste on land or into the aquatic environment contrary to established standards and without a waste discharge permit. Regulation 3 provides that before effluent or waste water is discharged into water or on land it must comply with the standards prescribed in the Schedule to the Regulations. The Schedule lists the maximum permissible limits of effluent or waste water that may be discharged into water or on land. The Executive Director or other duly authorised person is given authority to issue guidelines and recommend the method of effluent discharge for industries or establishments so as to ensure assimilation by the water or land into which the effluent is discharged.

The Regulations also create a general obligation to mitigate pollution.[39] Every industry or establishment is required to install, at its premises, anti-pollution equipment for the treatment of effluent chemical discharge emanating from the industry or establishment. The anti-pollution equipment installed should be based on the best practicable and environmentally sound practice or other guidelines, as the Executive Director may determine.

The National Environment Act Cap. 153 prohibits pollution that is contrary to established standards. According to Section 57, no person is allowed to pollute or lead any other person to pollute the environment contrary to the prescribed standards or guidelines. Sections 58 and 59 require every person who wishes to carry out any activity that is likely to pollute the air, water or land in excess of any standards or guidelines to acquire a pollution licence prior to doing so.

39 Regulation 4 of the National Environment (Minimum Standards for Discharge of Effluents into Water or Land) Regulations (1999).

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4.2.1.6 Controlled use of water

The use of water for mining activities requires a permit. Section 31 of the Mining Act (2003) confers an exclusive right on a holder of an exploration licence to carry on exploration operations in the area of land and extract the mineral to which the licence relates. Section 6 of the Mining Act provides that the holder does not acquire any rights to use water or to construct or operate any works unless authorised under Part II of the Act. Thus, unless a person is an occupier of land on which surface water exists, water may not be used for any purpose without the approval of an authority. The general rights to use surface water are limited to domestic use and fire fighting, once again indicating the importance attached to water supply for domestic purposes. Section 18 of the Mining Act makes it clear that a person may not construct or operate any works unless he or she has a permit granted for that purpose by the director, Directorate of Water Resources Management (DWRM). It is therfore illegal to use water for mining activities without a water permit granted by DRWM.

4.2.2 International legal framework for environmental and social regulation in the mining sector

While the primary regulatory mechanisms are mainly under national environmental law, an international regulatory framework is increasingly becoming important in the mining sector. The key instruments are listed below.

4.2.2.1 The Safety and Health in Mines Convention 1995

The United Nations International Labour Organisation's Safety and Health in Mines Convention (1995) is an international convention to protect the health and safety of mine workers. Adopted in 1995,[40] the Convention sets out a framework for countries to create a safe mining environment, with duties for companies/employers and rights for workers. Article 7 requires employers to take all necessary measures to eliminate or minimise the risks to safety and health in mines under their control. Article 10 requires the employer to ensure that adequate training and retraining programmes and comprehensible instructions are provided to workers, at no cost to them, on safety and health matters as well as on work assigned.

The Convention makes governments responsible for the domestic implementation of its framework. Article 3 of the Convention requires states to formulate, carry out and periodically review a coherent policy on safety and health in mines, particularly

40 Uganda has signed but not ratified the Convention.

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with regard to the measures to give effect to the provisions of the Convention, taking into consideration the national conditions and practice and after consultation with the most representative organisations of employers and workers concerned.

The most important aspect of the Convention is the right of workers to participate in workplace safety through independent safety representation, and the right to refuse unsafe work. This gives unions space to organise. Article 13 provides that national laws and regulations should provide for workers' rights to: obtain information relevant to their safety and health, held by the employer or the competent authority; remove themselves from any location at the mine when circumstances arise which appear, with reasonable justification, to pose a serious danger to their safety or health; and to collectively select safety and health representatives to represent workers on all aspects of workplace safety and health, such as monitoring and investigating safety and health matters, and consulting with the employer in a timely fashion on safety and health matters, including policies and procedures.

Article 15 requires states to take measures in accordance with national laws and regulations, to encourage cooperation between employers and workers and their representatives to promote safety and health in mines.

This Convention is important because it requires state parties to pass domestic laws to make sure that mines are as safe as possible.

4.2.2.2 The Safety and Health in Mines Recommendation 183 (1995)

The provisions of the Safety and Health in Mines Recommendation 183 (1995) supplement those of the Safety and Health in Mines Convention 1995 and are applied in conjunction with them.[41]

Provision 3 of the Recommendation advocates for consultations with the most representative organisations of employers and workers on the effect of the length of working hours, night work and shift work on workers' safety and health. After such consultations, it urges the state to take necessary measures relating to regulating working time and, in particular, to set maximum daily working hours and minimum daily rest periods. Under the Employment Act (2006) employees' total working time should not exceed 10 hours per day and 50 hours per week; and, where employees work in shifts, the average working time over a period of three weeks should not exceed 10 hours per day or 56 hours per week. Where the daily working time is at least eight hours, a 30-

41 Recommendations are often intended to offer guidelines for action by member states. Recommendations will elaborate upon the provisions of a Convention on the same subject. Member states have certain important procedural obligations in respect of recommendations – namely, to submit the texts to their legislative bodies, to report on the action resulting and to report occasionally at the request of the Governing Body on the measures taken or envisaged to give effect to the provisions.

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minute break should be given to the employees daily. Any overtime hour should be remunerated at a minimum rate of one and a half times the hourly rate on normal working days, and two times the hourly rate if the overtime is worked on gazetted public holidays.[42]

Provision 15 of the Recommendation requires all mine works to be ventilated in an appropriate manner to maintain an atmosphere in which working conditions are adequate. Provision 25 requires employers, where appropriate, to provide and maintain at no cost to the worker: sufficient and suitable toilets, showers, wash-basins and changing facilities that are, where appropriate, gender-specific; adequate facilities for the storage, laundering and drying of clothes; adequate supplies of potable drinking-water in suitable places; and adequate and hygienic facilities for taking meals. These two requirements are reflected in the Occupational Safety and Health Act (2006), which provides that the employer must ensure: proper ventilation and circulation of free air in working premises;[43] suitable lighting;[44] provision of adequate sanitary conveniences with separate accommodation for each gender;[45] adequate wholesome drinking water;[46] adequate and suitable clock rooms;[47] facilities for sitting down;[48] and facilities for meals.[49]

Provision 31 provides that the measures to encourage cooperation as provided for in Article 15 of the Convention should include the consultation of workers and their representatives by the employer in establishing safety and health policy and procedures; and the inclusion, by the employer, of workers' representatives in the investigation of accidents and dangerous occurrences, as provided in Article 10(d) of the Convention. In Uganda, it is the duty of every employer to consult a safety representative in the making and maintenance of arrangements which enable the employer and the workers to cooperate effectively in promoting the development of measures to ensure the safety and health of employees.[50]

Provision 33 requires that due regard should be given to the possible impact of mining activities on the surrounding environment and on the safety of the public. In particular, this should include the control of subsidence, vibration, fly-rock, harmful contaminants in the water, air or soil, the safe and effective management of waste tips and the rehabilitation of mine sites. Under Section 108 of the Mining Act (2003), every holder of an exploration licence or a mining lease is required to carry out an EIA for his or her proposed project; to follow environmental protection standards by taking all

42 Section 53 of the Employment Act (2006).
43 Section 47 of the Occupational Safety and Health Act (2006).
44 Section 48 of the Occupational Safety and Health Act (2006).
45 Section 49 of the Occupational Safety and Health Act (2006).
46 Section 50 of the Occupational Safety and Health Act (2006).
47 Section 51 of the Occupational Safety and Health Act (2006).
48 Section 52 of the Occupational Safety and Health Act (2006).
49 Section 53 of the Occupational Safety and Health Act (2006).
50 Section 15 of the Occupational Safety and Health Act (2006).

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the necessary steps to ensure the prevention and minimisation of pollution of the environment;[51] and to submit an environmental restoration plan of the exploration or mining area that may be damaged or adversely affected by the exploration or mining operations.[52]

These provisions of the Safety and Health in Mines Recommendation 183 of 1995 supplement those of the Safety and Health in Mines Convention 1995 and are applied in conjunction with them and the recommendations guide states in drafting legislation that regulates the impacts of mining.

4.2.2.3 International Finance Corporation Performance Standards

The International Finance Corporation (IFC) Performance Standards are an international benchmark for identifying and managing environmental and social risk. They have been adopted by many organisations as a key component of their environmental and social risk management. IFC's Environmental, Health and Safety (EHS) Guidelines are technical reference documents with general and industry specific examples of Good International Industry Practice (GIIP).[53]

The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them.

The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an EIA in which site-specific variables, such as host country context, assimilative capacity of the environment and other project factors, are taken into account. Potential environmental issues associated with mining activities may include management of water use and quality, wastes, hazardous materials, land use and biodiversity, air quality, noise and vibrations, energy use, and visual impacts.

51 Section 109 of the Mining Act (2003).
52 Section 110 of the Mining Act (2003).
53 Defined as the exercise of professional skill, diligence, prudence and foresight that would be reasonably expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally. The circumstances that skilled and experienced professionals may find when evaluating the range of pollution prevention and control techniques available to a project may include, but are not limited to, varying levels of environmental degradation and environmental assimilative capacity as well as varying levels of financial and technical feasibility.

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5 Institutional framework for environmental protection in mines

5.1 Ministry of Energy and Mineral Development

The direction and control of the mining sector is the responsibility of the Ministry of Energy and Mineral Development (MEMD). The mandate of the Ministry is to promote, develop, strategically manage and safeguard the rational and sustainable use of energy and mineral resources for economic and social development. Through the various agencies and departments, the MEMD has the overall responsibility for the energy sector, dealing specifically with policy formulation, policy implementation, and licensing, monitoring and regulatory control. The Directorate of Energy and Mineral Development under the Ministry oversees three technical departments responsible for energy resources, petroleum exploration, and production and mineral resources.

The Geological Survey and Mines Department of the Directorate is technically responsible for the administration and management of the mineral sector. The Department is mandated to promote and ensure rational development and use, in a safe and sustainable environment, of mineral resources for the socio-economic enhancement of the people of Uganda. Specifically, the Department has the mandate to: (i) collect, collate, process, analyse, archive and disseminate geosciences data; (ii) monitor operators and enforce regulations in the sector; and (iii) develop and retain professionals capable of generating and utilising the available geosciences data.

Therefore, the Ministry of Energy and Mineral Development ensures the fulfilment of the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.

5.2 Ministry of Water and Environment

The Ministry of Water and Environment (MWE) was established in 2007. It has the overall responsibility of developing, managing and regulating water and environment resources in Uganda.[54] It aims to provide sound and sustainable management of the environment for optimum social and economic benefits for present and future generations. The Ministry is also responsible for: initiating legislation; formulating policy; setting standards; inspecting; monitoring; coordinating; and backing up technical support in relation to the water and environment subsectors.

A multidisciplinary team representing stakeholders and constituting the Water Policy Committee advises the Minister on the functions mentioned above and is mandated to initiate revisions to legislation and regulations.

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54 See <http://www.mwe.go.ug/mwe/about-ministry> (accessed 27-3-2018).

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The Ministry has several divisions that assist in fulfilling its mandate. The Directorate of Water Development is in charge of promoting the rational management and use of water resources of Uganda by coordinating and regulating activities that may have an impact on water quality and quantity. Quality and quantity of water in watercourses is monitored and regulated by the Directorate of Water Resources Management, which also issues permits for water abstraction and effluent disposal. The Wetland Inspection Department is another technical unit in the Ministry that advises Government on technical matters and policies related to sustainable wetland conservation and management. The Department of Meteorology is responsible for providing climate and weather information to any stakeholders engaged in national development activities in Uganda.

5.3 The National Environment Management Authority

NEMA, a semi-autonomous institution, was established in May 1995 under the National Environment Act Cap. 153. It became operational in December 1995, as the principal agency in Uganda charged with the responsibility of coordinating, monitoring, regulating and supervising environmental management.

NEMA advises Government and spearheads the development of environmental policies, laws, regulations, standards and guidelines; and guides Government on sound environmental management in Uganda. NEMA's activities are focused on providing support to Government's main goal of ensuring sustainable development through the National Development Plan (NDP), in accordance with the policy framework of the Government of Uganda and the Sustainable Development Goals (SDGs).

NEMA's enforcement branch is the Department of Monitoring and Compliance. This Department is responsible for ensuring that enterprises comply with the various environmental regulations and standards. NEMA has appointed environmental inspectors whose powers and duties are spelled out in Section 81 of the National Environmental Act. These include closing down any activity that pollutes or is likely to pollute the environment and is contrary to the National Environment Act, for a period of not more than three weeks. The environmental inspector may also issue an improvement notice requiring an operator of any activity to cease any activities deleterious to the environment and which are contrary to the Act. NEMA has the power to prosecute environmental offenders in respect of offences committed under the National Environment Act, and may impose fines and prison sentences on the offender. NEMA is responsible for approving EIAs and reports for mining projects, in coordination with mineral agencies.

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5.4 District local governments

Local governments are responsible for the protection of the environment at the district level. The districts receive and forward applications for various mineral rights, arbitrate on compensation, resolve disputes and grant licences for those minerals not administered under the Mining Act and goldsmith licences. This implies that local governments have a big role to play in mining activities to be carried out within their jurisdiction and on matters that affect the environment.

The districts regulate the impacts of mining through District Environment Committees. Section 14 of the National Environment Act Cap 153 provides that NEMA shall, in consultation with the district council, provide guidelines for the establishment of a committee on the environment for each district (District Environment Committee). The functions of the District Environment Committee include the following: ensuring that environmental concerns are integrated in all plans and projects approved by the District Council; assisting in the development and formulation of by-laws relating to the management of the environment; promoting the dissemination of information about the environment through education and outreach programmes; coordinating with the authority on all issues relating to environment management; and preparing a district state of the environment report every year.

5.5 The Environmental Police Protection Unit

In 2011, the Ministry of Water and Environment set up the Environmental Protection Police Unit (EPPU) to enforce environmental laws and prevent the degradation of protected areas. The Government also commissioned 153 policemen to police lakes, forests and wetlands that are threatened by encroachment. The policemen were also tasked to sensitise members of the public on environmental laws.[55]

According to a recent report submitted by the EPPU to Uganda Police, it has recorded 1,127 environment-related cases, arrested over 1,000 suspects and confiscated 1,065 tools used by degraders. The tools include music equipment confiscated during operations against noise pollution, power saws used for illegal logging and others used in wetland reclamation. The EPPU has significantly contributed to the protection of the environment against degradation and the impacts of mining activities.[56]

55 *Uganda Radio Network* (2013).
56 *The New Vision* (2014).

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6 Key challenges in environmental and social protection

6.1 Gaps in the legal and institutional framework

There are some gaps in the legal and institutional framework that affect effective regulation of mining activities in Uganda. Under the Mining Act (2003), the duty and roles of the Minister, Commissioner and Inspector of Mines are not clearly defined. There is furthermore no provision for the independent oversight of the Commissioner, Inspector of Mines, or other public officers in the exercise of their duties, although there may be additional provisions under other legislation applicable to public officers in Uganda. There are no clear limits to the discretion that may be exercised by the Minister and the Commissioner.

The Commissioner is empowered to take a number of key decisions, including those relating to the granting of licences[57] and certain environmental issues, without needing to consult the Cabinet, other relevant agencies or an independent commission. No clarification is provided as to the separate roles and functions of the Inspector of Mines and the Commissioner in relation to inspections. Similarly, the relationship between the Commissioner and the Executive Director of NEMA is unclear. There is only limited provision for the review of decisions made by the Commissioner.

Furthermore, there are weak laws on policies relating to ASM. The legal framework does not provide adequate licencing regimes for ASM or measures protecting environmental and social rights in the context of ASM. As a result, ASM communities are vulnerable and marginalised.[58]

At the institutional level, the EPPU is poorly funded and, as a result, has a mere 153 officers. This is an insufficient number to undertake patrols and surveillance across the entire country and investigate all environmental cases thoroughly.

6.2 Limited enforcement of environmental regulations

There is limited enforcement of the relevant law owing to a lack of knowledge of environmental law, management and monitoring expertise, and equipment and facilitation. This is in addition to political interference that undermines law enforcement.

57 Section 43(3) of the Mining Act (2003).
58 Buxton (2013: 8).

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7 Conclusion and recommendations

The activities in the mining value chain have direct and indirect environmental and social impacts. These include water pollution; air pollution; noise pollution; harm to wildlife; contamination of soils; deforestation; land degradation; displacement of communities and disruption of livelihoods; damage to subsistence agriculture; social inequality; and economic dependency. Although Uganda has a regulatory and institutional framework for environmental protection during the mining value chain, there are a number of challenges that undermine environmental protection efforts. These challenges include some gaps in the legal regime and the inadequate enforcement of the existing regime. To address these challenges, a number of recommendations are proposed. Firstly, it is necessary to revise the legislation to recognise the international best practices for protection of the environment and human rights in mining areas. Such practices include: involvement of all stakeholders; regulation of artisans and small-scale miners; inclusion of gender elements in the mining sector; safety and health; and resettlement and compensation standards. Secondly, there is a need to strengthen capacity to ensure monitoring and enforcement of environmental standards at all stages of the mining cycle. Lastly, it is important to raise the awareness of the local communities so that they know their rights relating to the elimination of the vulnerability and marginalisation of communities.

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