"Precaution over Remediation: Killing the Polluter Pays Principle under Zambia' Mining Regime"

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ABSTRACT

The Polluter Pays Principle seeks to ensure that those responsible for the harm to the environment bear the responsibility of meeting the associated social or economic costs of repair or restoration. The principle is ingrained in Zambia's legislation and has been applied consistently. Though an effective tool for ensuring remediation, the PPP is unable to comprehensively address damage to the environment. This has allowed mining companies to operate with impunity resulting in irreversible damage to the environment and whose effects may linger long after the cessation of mining activities. Unfortunately, the law that places a responsibility on citizens, local authorities and the government to protect the environment is otiose. This explains calls by individuals, interest groups, researchers and academics for a shift towards sustainable mining practices that embrace a precautionary approach. In recent times, the decisions of the court seem to suggest a paradigm shift towards precaution rather than remediation. The challenge, it would appear, is the decision-making process of the policymakers that seems not to favour a precautionary approach even to intending investors in the mining sector.

The article dissects the inadequacy of the PPP under Zambia's mining regime and argues the need for a paradigm shift from harm remediation to precaution.

Key Words: Environmental Management Act; Mines and Minerals Development Act; Mining Pollution; Polluter Pays Principle; Precautionary Principle.

INTRODUCTION

The Polluter Pays Principle (PPP) was developed during the 1970s by the OECD to restrain domestic public authorities from subsidising a firm's pollution control costs.[1] It arose due to the conflict between the attraction of foreign direct investment (FDI) on the one hand and ensuring stronger environmental protection on the other. The conflict was premised on the notion that FDI could lead to activities that are bereft of mechanisms that internalise social and environmental costs.[2] Internalising environmental costs was, therefore, seen as a way of moving the cost of harming the environment from the society at large to the one that causes harm.

The OECD incorporated the PPP in its Guiding Principles concerning International Economic Aspects of Environmental Policies. According to the Guiding Principles, the PPP was to be 'used for allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources.' [3] The polluter must bear the expenses of carrying out such measures decided by public authorities to ensure that the environment is in an acceptable state. The Guiding Principles concentrated on ensuring that polluters do not receive subsidies as this would lead to substantial distortions in international trade and investment.[4] The Principles, though referred to as an acceptable state for the environment aimed at encouraging rational use of resources, did not identify the optimal level of pollution. This made the PPP an economic rather than a legal principle.

In 1972, the Declaration of the United Nations Conference on the Human Environment ('*Stockholm Declaration*') led to the incorporation of the modern-day PPP. Principle 21 of the *Declaration* granted States the right to 'exploit their own resources pursuant to their own environmental policies' and 'ensure that activities within their jurisdiction or control do not cause damage to the environment of other States.'

Principle 22 required States to cooperate and develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction. This principle is reaffirmed in the *Rio Declaration* 1992 which requires national authorities to encourage the internalisation of the costs of the environment and use of the economic instruments in determining the liability of the polluter for the cost of causing pollution.[5]

Mining has been one of the most economically dominating sectors in Zambia. Considering the innumerable benefits that the mining sector confers on the country, the Government has remained committed to promoting and protecting local and foreign investment in the sector.[6] The mining sector accounts for 10 per cent of the Gross Domestic Product (GDP), over 70 per cent of foreign exchange earnings, 30 per cent of Government revenue, and 8 per cent of formal employment.[7] The benefits, however, are eroded by the debilitating effects that mining activities pose on the environment through pollution. The improper discharge of effluents or harmful mineral processing methods adversely affects the environment especially human beings whose survival depends on a clean, safe, and healthy environment. To curb pollution from mining activities, the Environmental Management Act (EMA) and Mines and Minerals Development (MMDA) 2015 have been enacted. The EMA provides numerous measures under Part IX aimed at mitigating or remedying the breach. The enforcement of any of the measures is guided by the 'polluter pays principle'.[8] Similarly, the MMDA 2015 embraces the PPP and obliges the polluter to make good the breach committed.

The enforcement of compliance through the application of the PPP, though has served its purpose, has not been an effective tool. The ineffectiveness of the PPP lies partly in its crafting under the law and its failure to comprehensively deal with mining pollution. This would explain the paradigm shift by some courts towards precaution rather than remediation. The premise for this shift is the possible irreversibility of the debilitating effects of mining activities on the environment some of which linger long after the cessation of mining activities.

POLLUTER PAYS PRINCIPLE

The PPP is recognised under Zambia's domestic legislation. The Constitution 2016 lays down principles regarding the management and development of the environment and natural resources with the PPP among them. Article 255(b) enunciates that a 'person responsible for polluting or degrading the environment is responsible for paying for the damage done to the environment'.[9] Similarly, the EMA obliges the polluter to 'pay the full cost of cleaning the polluted environment and of removing the pollution' where a pollutant is discharged into the environment.[10] The MMDA, though captures the PPP in section 87, does not embrace it among the principles on sustainable mineral extraction and utilisation of environmentally friendly mining practices.[11] Three elements seem to constitute the PPP: pollution; polluter; and payment.

Pollution

The issue of pollution is as old as mankind. It is a global concern especially because man's survival is dependent on a sound environment. As a term, 'pollution' is defined under the EMA as:

…the presence in the environment of one or more contaminants or pollutants in such quantities and under such conditions as may cause discomfort to, or endanger, the health, safety and welfare of human beings, or which may cause injury or damage to plant or animal life or property, or which may interfere unreasonably with the normal enjoyment of life, the use of property or conduct of business.[12]

This definition consists of three elements: (i) the presence of undesired substances; (ii) discomfort or danger caused by such substances; and (iii) substance unreasonable interfere with life, property or business. For pollution to be said to have occurred, the quantity of the substance in the environment must cause discomfort or danger to human beings thus affecting their enjoyment of life, property use, and business. It is

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argued that, where each one of the elements is not met, pollution would not be said to have occurred. The OECD defines 'pollution' in a similar manner as:

…the introduction by man, directly or indirectly, of substances or energy into the environment resulting in deleterious effects of such a nature as to endanger human health, harm living resources and ecosystems, and impair or interfere with amenities and other legitimate uses of the environment.[13]

This definition by the OECD identifies man as the source of undesirable substances introduced into the environment. This is unlike the EMA which, despite acknowledging 'the presence' of substances in the environment, does not state 'who' or 'what' is responsible for their presence. What is similar about the two definitions, however, is the effect that the substances have on the environment and the health of a human being. The clarity of the OECD definition, in comparison with the one under the EMA, explains why it is the most widely accepted definition of the term 'pollution'.

Pollution affects the environmental media in three ways: water, air, and land. Water is an essential element of life but yet, the most threatened by pollution where it is not well managed. The EMA defines 'water pollution' as 'the introduction, directly or indirectly, of pollutants into an aquatic environment.'[14] This definition is limited in scope compared to the Water Resources Management Act (WRMA) which defines it as 'any direct or indirect contamination or alteration of the biological, chemical or physical properties of water, including changes in colour, odour, taste, temperature or turbidity' or 'any discharge of any gaseous, liquid, solid or other substance into any water resource…to create a nuisance or render the water detrimental, harmful or injurious to…the health, safety or welfare of any human being…or the environment.'[15] This implies that any contamination of water must alter its natural colour, smell, taste, turbidity or temperature. The contaminants, whether in the form of gas, solid or liquid, must be harmful to the health, safety, or livelihood of a human being or the environment. The EMA allows the discharge ofsuch pollutants into a water body, however, such should not be beyond the standards that have been established by the Agency on water pollution control.[16] Section 48 of the WRMA places strict liability on the polluter regardless of whether or not they acted intentionally.[17]

Mining activities, irrespective of how carefully they are conducted, can affect water through acid Mine drainage, erosion and sedimentation, processing chemicals and metal pollution. Acid mine drainage occurs when large quantities of rock containing sulphide minerals are excavated and react with water and oxygen to create sulphuric acid. The acid then leaches from the rock which may either percolate into the ground to the water below or be carried off by rainwater in water bodies and thus, polluting them. Erosion from waste rocks that have been piled and get washed away after heavy rainfall often increases the sediment load of nearby water bodies. This can significantly change the characteristics of stream sediments thereby reducing water quality through increased turbidity. The use of processing chemicals, such as arsenic, cobalt, copper, cadmium, lead, silver and zinc in extracting metals, can affect human life if leached out and carried downstream.[18]

Air pollution is the presence of pollutants in the air that causes a rise in the atmosphere surrounding the earth whose effect endangers human beings' health, safety, or welfare.[19] The pollutants include dust, gases from combustion processes, noise, and vibrations from mining activities.[20] This is by far, the most dangerous form of pollution emanating from mining activities. Inhalation can lead to lung cancer, asthma, allergies, and various breathing problems along with severe and irreparable damage to flora and fauna.

Land pollution comprises any physical or chemical alteration to the land which causes its use to change and renders it incapable of beneficial use without treatment.[21] It indicates contamination of the soil that leads to long-term damage, loss, degradation or destruction. Mining activities pollute the land through tailings and waste rock from mineral extraction. Tailings are liquid slurries made of water and fine mineral particles that are created when mined ore is crushed, ground and processed. These either form 'large hills' on the landscape or are collected in a dam (tailings dam). The tailings are nutrient deficient, saline, toxic and contain high acidity or alkalinity thus can affect soil fertility and farming where erosion occurs during the

rainy season.[22] There are also dry tailing dams that arise from wind-borne dust particles. These are high in metals and may lead to contamination due to their accumulation in the soil. This may inhibit enzyme activity in the soil and endanger plant growth.[23]

Polluter

A polluter is 'a person who contributes to, or creates a condition of, pollution'.[24] This definition considers a polluter in terms of 'a person'. Though there is no meaning attached to 'a person', it can be argued as including inanimate objects such as a company. For 'a person' to be said to be a polluter, such must contribute to or create pollution. Creating pollution occurs when a mining activity generates waste beyond the statutory limit. Contribution can be in instances where mining activities add to the already polluted environment. This is particularly common in the mining sector where operations are constant.[25]

Payment

The principle requires the polluter to pay but what is paid? In terms of payment, there are two forms prescribed under the law: compensation and a fine (or imprisonment or both). Compensation is required when the polluter's activities cause or are likely to harm another person. In such an instance, the affected person has the right to bring an action for damages against the polluter.[26] The damages may be compensation for the harm caused to human health or the environment.[27] It may also include any negativeeffect on the community's livelihood, disruption of the agricultural system, reduction in yields of the community, destruction of biodiversity, damage to the community's economy, costs and medical expenses, disability suffered, and loss of life.[28] The court may award legal costs not fully covered and damages suffered.[29]

Pollution also attracts criminal sanctions. The EMA criminalises the discharge of pollutants that result in harm to the environment.[30] Criminal liability is also attached to a person who conducts themselves in a manner that contravenes environmental standards.[31] Where a body corporate is found guilty, everydirector or manager is liable as though they committed the offence.[32] The court may also order aconvicted person to remedy or mitigate any negative environmental effects.[33]

HOLDING THE POLLUTER ACCOUNTABLE

In ameliorating the pollution caused, the polluter must be held accountable. Numerous methods depict the accountability of the polluter:

Environmental Protection Fund

The MMDA establishes the Environmental Protection Fund (EPF). It is administered and managed by the EPF Committee whose members are appointed by the Minister.[34] The Fund acts as a depository for cash deposits for securing the performance of a licence holder to the licence condition.[35] The contributions made to the Fund depend on the capacity of the developer to rehabilitate harm caused to the environmentdue to its mining operations.[36] The calculation of the amount to be contributed depend on the performance of each developer who shall be categorised following the Eleventh Schedule of the Regulations. The Eleventh Schedule has three categories: (i) rehabilitation which constitutes progress, monitoring, and annual audits to ensure target meeting; (ii) compliance with the financial capability to complete rehabilitation, adequacy of rehabilitation materials, presence of expertise, and possession of an approved environmental impact statement or project brief; and (iii) meeting the basic operational and strategicenvironmental protection requirements such as approved environmental impact statement or project brief, discharges permit or licence, post-mining land use plans, and a water management system to contain, treat, discharge or dispose of contaminated water.

The contribution is deposited with the Fund over five years beginning the year of prospecting, exploration or mining operations. In the case of new mining operations, it is at the point of commissioning. Where it is an existing mine, time may begin to run upon submission of an approved environmental impact statement or project briefs for prospecting and exploration projects.[37] The money deposited by the licence holder or the balance thereof may be refunded at the expiry or termination of a licence or permit.[38] Similarly, a refund can be made to cover the payment of any debt for the failure of compliance[39] or recovery through proceeds of the sale of the mine[40]. The amount payable to satisfy a debt shall not, however, exceed the amount of cash deposits lodged by that person(s).[41] The Committee may, with the Minister's approval, invest the money standing to the credit of the Fund if such is not immediately required.[42]

Despite the obligation that the mining company contribute to the Fund, there is seemingly no action by the government, through its agencies, to compel compliance. This would explain why in ***Lafarge Cement Zambia Limited PLC v Peter Sinkamba***, the respondent took legal action against the appellant seeking compliance. The matter was dismissed on account that the respondent lacked locus standi. According to the court, the law had not clothed the respondent was the authority to recover money or demand from the appellant payment or deposit into the EPF. Muyovwe J said:

The best the respondent could have done was to cooperate with the Ministry of Mines to register his grievances with regard to the operations of the appellant and to establish whether the appellant was paying into the EPF or not. It is up to the government to use its powers under the Act as far as the EPF is concerned.
[43]

This reasoning did not interrogate how the respondent did not have locus standi despite the lucidness of s 87(7) of the MMDA which permits any person to bring an action in the interest of the environment. It is argued that the court did not appreciate the premise of the action; failure to contribute militates efforts to rehabilitate the environment at the end of the mining activities. The court should have also made the government more responsive to its duties. On costs, s 87(8) of MMDA provides that "Costs shall not be awarded against any of the persons specified under subsection (7) who fail in any action if the action was instituted reasonably out of concern for the public interest or the interest of protecting human health, biological diversity and in general, the environment." Deciphering this provision entails that costs are not awarded to any person who brings an action under s 87(7) and has failed with their claim. The award ofcosts is on basis that the person acted in the interest of the public in protecting the environment or human health. In the ***Lafarge*** case, the respondent had brought an action in the interest of the environment,however, the court awarded damages against him. It stated that:

Coming to the question of costs, it is trite that costs follow the event. We note the provisions of Section 123 of the Mines and Minerals Development Act which protects a plaintiff from costs if a matter is properly commenced under that Section. As we have observed, *the respondent had no legal authority to bring this action and, therefore, cannot benefit from his wrongs*.[44] [Emphasis placed]
The court misconstrued the provisions of s 87 which allows a person to act on their behalf or the affected person or the environment. The considerations by the court were centred on whether the respondent could obtain compensation and not why he did not have legal authority. This was a missed chance for the court to make a pronouncement. The court had decided to merge the issue of the locus standi with the claim from the Fund, something that it should not have done. Its failure to do so is a serious misdirection considering that the respondent argued that the action was brought on behalf of the affected and environment.

As observed by the Auditor General's Report, the Fund aims to secure the Government against future environmental liabilities that may arise in case the mines fail to meet the environmental liabilities at closure has not operated effectively.[45] The Parliamentary Committee on Lands, Environment and Tourism observed that 'mining companies were not complying with the EPF's regulations in that the majority were

not paying the stipulated contributions' and 'the Mines Safety Department (MSD) had failed to enforce sanctions on defaulters to the Fund'.[46] It is suggested that the MSD should ensure that all mines that are required to contribute to the Fund are compelled to do so. The adverse effects of non-compliance cannot be gainsaid suffice, however, to state that there is no safety net for the protection of the environment. The MMDA provides for punitive measures for failure to comply with any directive given under the Act.[47]If a company is found liable, its director is also deemed to have committed the same offence.[48] While such measures may prove to be a panacea, implementation remains a challenge.

In the event of mine closure, the polluter would not have been held accountable for pollution done during the life of the mine after its closure or decommissioning. The burden to clean up falls on the government which, unfortunately, has no financial capacity to do so. Currently, the government has struggled to deal with lead pollution, whose effects are still felt by residents, despite the closure of the Kabwe mine in 1994. The government, through the Ministry of Mines and Mineral Development, has entered into an agreement with the World Bank for financial support towards specific remediation activities in Kabwe. The interventions are based on a standard set of social, environmental and economic criteria including an assessment of environmental health risks.[49] The challenge, it would seem, is that such interventions do notaddress soil remediation but lead treatment or surveillance.[50] This implies that further exposure to lead continues from the dust fallout from the tailing dams. Residents have since commenced an action against Anglo America Corporation demanding payment of damages for its lead mining activities between 1927 and1970. The absurdity of the claim is the exclusion of the government (from the suit) which operated the mine between 1970 and 1994.

Role of Government

The government is responsible for ensuring that, in the utilisation of natural resources and management of the environment, environmental standards are enforced to the benefit of citizens.[51] Notwithstanding the lucidity of these obligations, the government has not made polluters pay for the pollution caused by their mining activities. In cases where legal action for pollution has been taken against a mining company, there has been no government involvement as a litigant. Its non-involvement is fortified by the absence of an obligation under s 87(7) of the MMDA which affords a person, group of persons, or private and state entity the right to bring an action against an erring mining company. It could plausibly be concluded that the government is preoccupied with preserving the employment of mine workers or the fear of a suit for expropriation by foreign mining companies. Further, the agreements signed between the government and theforeign mining companies could preclude them from taking evasive actions against their subsidiariesoperating in the country. These factors have resulted in the failure of the government to hold the polluter liable for mining activities that cause pollution. In such instances, legal action can be brought against the

government based on failure to adhere to the constitutional obligation that requires it to enforce a breach of set environmental standards. This would also remove considerations that may be an affront to the protection of the environment from the debilitating effects of mining activities.

Although mining companies have been culprits of environmental pollution, the government is equally culpable. The mines were operated by the government following their nationalisation in 1970. It is indisputable that the mining activities polluted the environment creating what has been referred to as 'historical' or 'legacy' pollution. Studies reveal that during that period, despite the adverse effects of mining, on the environment, the 'law still remained weak as the government could not create a policy against itself.'[52] This would explain why, during the privatisation negotiation process, the appropriate handling of historical environmental liabilities was a key issue; the government agreed to take over environmental liabilities caused by the mines before privatisation. The liabilities that could not be separated from ongoing operations remained, such as waste depositories, as they were needed for ongoing mining activities. Though the government sourced funding from the World Bank to deal with environmentallegacies, the funds were inadequate to comprehensively deal with the issue. This has only compounded the

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A perusal of the present legislation seems to 'insulate' the government against a suit for pollution caused before privatisation, however, a claim in torts remains a possibility. This would ensure that government, as a polluter, is liable for the pollution caused or exacerbated before privatisation. Though it would have been plausible then to bring a suit against the government under s 90 of the EPPCA, no action was taken. The challenge of bringing such action at present would be (a) the basis of the claim; (b) the claim being time- barred under the Statute of Limitation 1939; (c) establishing liability for continuing activities; and (d) who the possible claimants are (those affected then, now or tomorrow). These issues may not be easily resolved or deciphered.

Role of local authorities

Local authorities assist in the provision of public services and amenities and the nature of this governance may include the collection of fees, licensing and promulgation of regulations. Regarding the role of local authorities, the Constitution 2016 obliges the local government system to promote a clean, safe and healthy environment.[53] The clarity of this provision presupposes that the role of the local government extends to mining activities. The Constitution 2016 requires the local authority, in the case of a council, to make by- laws that may also relate to environmental protection.[54]

The Local Government Act (2 of 2019), the Public Health Act (Chapter 295), and the Urban Regional Planning (URP) Act (3 of 2015) are the primary legislation that governs the operations of local authorities inso far as environmental protection is concerned. The Local Government Act attempts to address environmental protection albeit in the regulations promulgated thereunder. According to the Local Administration (Trade Effluent) Regulations of 1994, the discharge of trade effluents is not permitted where prior written permission has not been granted by the local authority.[55] The grant of such permission may be conditional and per the legal standards.[56] Under the Public Health Act, a local authority is mandated to take all measures necessary for preventing any pollution to the water supply to which the public has access for either drinking or domestic purposes.[57] The URP Act has empowered local authorities to "ensure sustainable urban and rural development by promoting environmental, social and economic sustainability in development initiatives and controls at all levels of urban and regional planning."[58] This obligation requires local authorities, in their urban and regional planning and development processes, to promote environmental protection. Section 3 of the URP Act provides:

- The following principles shall apply to the national, regional, provincial, district and local planning

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frameworks, systems and processes:

- planning procedures shall incorporate environmental standards and requirements specified in any law relating to the environment and natural resources;
- social and economic demands impacting on an area shall take into account the environmental and ecological factors of the area.[59]

These principles are accompanied by standards that require the protection of natural surroundings and landscapes, water bodies, and forests. Where appropriate, these must be developed to enhance the environmental sustainability of the areas.[60] The authority is obligated to consult the Agency to ascertain whether the proposed development poses harm to the environment.[61] Where permission to develop the land has not been granted, compensation shall not be payable where the refusal is based on the harm that the development would pose to the environment, public health or human life.[62] In instances where the local authority is developing the land, a survey report shall include a development emphasising environmental concerns.[63]

The operation of the local authorities is only to the extent that the EMA permits. Section 9 obliges the Agency to:

- develop, in liaison with the relevant appropriate authority, standards and guidelines relating to the protection of air, water, land and other natural resources and the prevention and control of pollution, the discharge of waste and the control of toxic substances;
- collaborate with Government agencies, appropriate authorities and other bodies and institutions to control pollution and protect the environment; and
- collaborate with such local and international agencies as the Agency considers necessary for the purposes of this Act.[64]

This section enables the Agency to cooperate and collaborate with other authorities in developing standards and guidelines that relate to environmental protection. The Act also permits the Minister to assign the performance of any functions of the Agency to any appropriate authority.[65] In section 47 of the EMA, a person that wishes to discharge effluents into a sewerage system is required to obtain permission from the local authority which may impose conditions relating to such discharge.[66] The Agency, in liaison with the local authority, bears the responsibility to establish standards for water quality and pollution, effluent discharge, and investigation of actual or suspected water pollution.[67] Despite these legal requirements, the local authorities have not worked effectively given the lack of complete devolution of responsibility to them by the Agency. This inhibits the liability of the polluter thus exacerbating mining pollution. The local authority, which has a presence in more mining communities than ZEMA, must be specifically mandated to take evasive action against erring mining companies in their area. This obligation must be coupled with a mechanism that allows the council to monitor and enforce compliance of mining companies with reports given to ZEMA.

Role of Citizen

The Constitution 2016 places an obligation on the citizen to protect the environment, sustainably utilise natural resources, and maintain a clean and healthy environment.[68] The specific reference to ‘a citizen’ would suggest that the responsibility is not conferred on non-citizens. It can also be assumed that corporate entities are not obliged to protect the environment, ensure sustainable exploitation of mineral resources or maintain a clean and healthy environment. This is quite ironic considering that the mining activities of corporate entities are the cause of pollution. A citizen is also obliged to cooperate with State organs, institutions and other persons to maintain a clean, safe and healthy environment; ensure ecologicallysustainable development and use of natural resources; respect, protect and safeguard the environment; and prevent or discontinue an act which is harmful to the environment.[69] While cooperating with State organs,institutions and other persons performs a noble act of citizenry, however, the extent of such cooperation is unclear and may be no more than an act of ‘charity’ on the part of the citizen. It is argued that corporate

entities should be included especially since they are the culprits of pollution emanating from their mining activities.

The EMA is more elaborate and places a duty on 'every person' to 'safeguard and enhance the environment and to inform the Agency of any activity or phenomenon that affects or may affect the environment.'[70] Under section 4, a person can bring an action where their right to a clean, safe and healthy environment has been infringed upon.[71]

LIABILITY OF THE POLLUTER

The liability of the polluter is covered in both the EMA and the MMDA which endorse the PPP.

Environmental Management Act

The liability of the polluter could be traced back to 1990 when the Environmental Pollution and Protection Control Act (EPPCA) was enacted. The enactment of the EPPCA arose from the realisation that development without due regard to maintaining a sound environment could potentially lead toenvironmental degradation. The PPP was encapsulated under section 90 in the following manner:

- Where the Inspectorate establishes that pollution or despolation is occurring or has occurred, the Inspectorate shall inform the pollutor and order him to take appropriate abatement and control measures specified by the Inspectorate under this Act.
- Where the pollutor is unable or unwilling to take the abatement and control measures required under subsection (1), the Council may take the measures and in such cases, the cost incurred by the Council shall be paid by the pollutor.

This provision required the polluter to take necessary measures to abate or control the pollution caused. It also placed an obligation on the Inspectorate, where it established that certain activities wereenvironmentally harmful, to request the polluter to remedy the damage caused. Where the polluter was unable or unwilling to do so, the Council was obliged to undertake control or abatement measures. Unfortunately, the section was bereft of a mechanism to hold accountable a polluter that neglected, refused or failed to remedy the pollution caused on the environment. Before the repeal of the EPPCA, JamesNyasulu and 2000 others brought an action in the High Court against Konkola Copper Mines (KCM), the Environmental Council of Zambia (ECZ) and the Chingola Municipal Council in 2007. The thrust of the appellants' contention was that KCM had discharged pollutants in excess amounts in the Kafue River the effect of which they suffered numerous illnesses. The court established the liability of KCM but did notrefer to s 90. The concentration of the court was on the harm caused to the residents rather than remedying the pollution to avoid future harm.[72] The court did not compel the polluter to repair the environment despite issuing a stern warning. Musonda J stated:

> This judgment may appear to be investor unfriendly, but that is having a dim view to KCM's don't care attitude whether human life which is sacrosanct in our constitution was lost or not. *International investors should observe high environmental standards, that is a global approach.* The fact that the host country (Zambia) is in dire need of foreign investment to improve the well-being of its people, does not mean its people should be dehumanized by 'Greed and Crude Capitalism', which puts profit above human life.[73] [Emphasis mine]

The meaning of 'high environmental standards', though not explained by the court, would mean observance of international practices that are aimed at protecting the environment. The awarding of damages for pain and suffering is only a consequence but not a global approach concerning environmental protection. The court ought to have applied international instruments on environmental protection to the facts at hand butdid not do so despite having recognised the influence of such instruments.[74]

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In 2011, the EPPCA was repealed and replaced with the EMA. The EMA has recognised the PPP as a fundamental principle upon which provisions of the Act shall be construed. Section 32(1) provides that 'a person shall not, without a licence, discharge, cause or permit the discharge of, a contaminant or pollutant into the environment if that discharge causes, or is likely to cause, an adverse effect.' This provision requires a licence to be obtained by a person before they discharge any pollutants into the environment. It is an offence where a person discharges such substances without a licence.[75] Upon conviction or payment of a fine, the polluter may be directed by the court to clean up, pay the full cost of cleaning, and of removing the pollution.[76] The court may also request the polluter to meet the cost of the pollution through adequate compensation, restoration or restitution where pollution affects third parties.[77] Criminal sanctions can be meted out to directors of a mining company where there is pollution to the environment.[78]

Notwithstanding these laudable mechanisms, courts when faced with such matters have shied away from meting out criminal sanctions against erring corporations. In ***James Nyasulu and 2000 others v Konkola Copper Mines PLC, Environmental Council of Zambia & Chingola Municipal Council***, despite establishing that the acts of a polluter bore a 'moral, criminal and civil liability', the court did not mete out any criminal sanction on account that the multinational corporation acted 'with impunity and immunity' as it was 'politically correct and connected.'[79] The reasoning of the court was illogical considering the observation made by it that it was '…not too late to prosecute KCM and set an example' especially that 'INDENI was prosecuted in Ndola Principal Resident Magistrates Court for polluting Kaloko Stream.'[80] Rather than act judiciously, the court shied away from executing its duties justifying its actions by raising political reasons.[81]

Mines and Minerals Development Act

The polluter is held strictly liable for any harm or damage caused by mining or mineral processing operations.[82] This implies that the intention of the polluter is immaterial; the polluter is liable for the acts committed. The liability is a payment of compensation to 'any person to whom the harm or damage is caused.'[83] An interpretation of this would mean that a person who has not suffered harm or damage lacks the necessary impetus to bring an action for compensation. The compensation shall include the cost of reinstatement, rehabilitation or clean-up measures, and the costs of preventive measures.[84] The use of the words 'shall include' widens the scope of what can be compensated. It is also an acknowledgement that harm or damage caused by mining activities goes beyond reinstatement, rehabilitation or prevention. This could explain why section 87(5) extends liability where mining activities: adversely affects the economic or social-cultural conditions; community livelihood; production or agricultural systems; local community yields; air, water or soil or damage to biological diversity; and the economy of an area or community. [85]

Enforcement

The MMDA 2015 lists a category of persons that bring an action: a person, group of persons or a private or State organisation. These persons or entities may bring an action where there is 'breach or threatened breach of any provision relating to damage to the environment, biological diversity, human and animal health or to socio-economic conditions'.[86] This would imply that the action can relate to damage already caused or anticipated to be caused. The courts have easily dealt with cases where damage has been caused but not so where it is anticipated to be caused. In the latter situation, the courts have shied away from addressing the matter on account that damage not yet caused cannot be ascertained. In ***Martha Muzithe Kangwa & 29 others v Zambia Environmental Management Agency, Nasla Cement Limited & Attorney General,*** the court was preoccupied with proof of 'demonstrable harm' as a basis for the claim. In the absence of such proof, a project that would potentially pollute could be allowed to proceed provided the polluter 'canremedy any harm anytime.' Musonda J, in rejecting the argument, stated that the action had 'been brought prematurely when there has been no demonstrable harm.'[87] On appeal, the Supreme Court endorsed the

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reasoning of the High Court and consequently dismissed the matter. Wood J reiterated that 'we agree with the learned trial Judge that the appellants failed to show any demonstrable harm that they were likely to suffer should the project proceed.'[88] The view of both courts is bereft of tenets of environmental law that seek to avoid rather than a remedy. Mulenga opines that 'the insistence by the courts that harm must be demonstrated to succeed in the matter goes against tenets of environmental law that place preventive measures above other principles, such as polluter must pay.'[89] Such tenets are premised on the understanding that certain pollution may pose irreparable damage and as such, precautionary efforts must bemade.

Challenges of the Polluter Pays Principle

The PPP under the MMDA 2015 is ingrained in torts. This means that, where there a mining company is found liable for pollution, it must pass the test of 'negligence' before liability can be apportioned and the extent thereof. In a few cases that have been decided by the courts, the approach taken by the courts involved establishing liability in torts– *Doris Chinsambwe*, *Geoffrey Miti* and *James Nyasulu*. In ***Doris Chisambwe & 95 others v NFC Africa Mining PLC,*** the plaintiffs averred that the defendant neglected to contain the tailings in the Musakashi tailings dam thereby causing pollution to the stream. The pollution also caused flooding which damaged the plaintiffs' crops. Maka–Phiri J ruled that '…the defendant owes the plaintiff a duty of care by ensuring that the water levels in the tailings dam are properly maintained to avoid any overflow thereby causing flooding downstream. The defendant also has a duty to ensure that the stream is not chemically polluted as it discharges its effluent in the stream.'[90] The court was satisfied that the defendant was liable for the negligence and the consequential damage or loss.

In ***Geoffrey Elliam Mithi v Mopani Copper Mines PLC & Attorney General***, the plaintiff, while attending a prayer meeting, inhaled toxic sulphur fumes that were emitted by the first defendant. This resulted in acute respiratory failure and eventual death. The plaintiff claimed that the first defendant was negligent and in breach of a duty it owed to the deceased. The court established that the defendant emitted high volumes of sulphur dioxide from its smelter which exceeded the limits imposed by ZEMA. Consequentially, Sichinga J stated thus, 'I am satisfied that the Defendant cannot deny that it owed the deceased a duty of care, and accordingly I take the view that the Defendant is estopped from denying the effects of its activities on the deceased were foreseeable.'[91] On appeal, the Supreme court reiterated that 'if an action which is allowed by law is performed carelessly, thereby resulting in damage, a common law action will lie.'[92]

The court expressed a similar view in ***James Nyasulu and 2000 others v Konkola Copper Mines PLC, Environmental Council of Zambia & Chingola Municipal Council*** where the plaintiffs brought an action against the first defendant for polluting the water source through discharge of its affluence from its mining operations. The second was alleged to have failed or neglected to carry out an inspection or supervise the pipes in question regularly to ensure they attain the required acceptable standards. The third defendant was purported to have failed to take adequate measures to mitigate and control the effects of the pollution of the water supply by maintaining sufficient water reserves. The matter was brought under the tort of negligence. The court rightly found that the actions of the first defendant as a 'lack of corporate responsibility and criminal and a tipping point for corporate recklessness.' As a way to 'deter others who may discharge poisonous substances', damages were awarded as the plaintiffs had proved their case 'in Common Law and Statutory Law'.[93] On appeal, the Supreme Court affirmed the decision of the High Court. Mwanamwambwa J aptly stated that there was 'no merit in the Appellant's argument that it did not owe the Respondents a statutory duty of care at the time of the incidence because it had been given an exemption from the statutory limits on the amount of effluent it could discharge into the environment at the time.[94]

It is argued that the PPP, though used to compensate victims, it is limited in that the liability does not go beyond negligence. For instance, in *James Nyasulu* the damage caused to the environment (aquatic and soil) should have been quantified and the polluter made to pay or clean up. It was crucial, therefore, that special

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considerations were made to preserve the environment. This would avoid a recurrence of the effects of pollution on human life. It is also asserted that certain pollution from mining activities may not be atoned for through compensation of the victims. For instance, the grant of a mining licence to MwembeshiResources Limited raised serious concerns, among them, the inability of the company to remedy the harm tobe caused to the environment. Expert reports supported the position of ZEMA to refuse the grant of the licence.[95] Leigh observed that there was 'no evidence to support mining activities within the Lower Zambezi National Park. On the contrary, information indicates that there is a high and long-term risk to the health and wellbeing of communities, wildlife and the environment from this Project, as well as cross-borderimplications from the shared Zambezi River water resource.'[96] Although this matter culminated in a suit, *Zambia Community Based Natural Resource Management Forum* (cited above), the substantive issues were not decided. In 2019, the government reiterated its position to preserve the environment. In his address to parliament, the Minister of Mines and Mineral Development stated the following:

In that regard, Mr Speaker, the Ministry will not allow mining to compromise any water body and, indeed, the environment. The Ministry has since restricted mining licenses at the source of the Zambezi River to give assurance to the people of Zambia about the Government's commitment to ensuring that environmental protection is key. Similarly, in the current case of the Lower Zambezi, the Government will ensure that the water body in the Zambezi River is not compromised by the mining activity, hence the need for the Zambia Environmental Management Agency (ZEMA) to indicate its approval or otherwise for the project. [97]

This bold statement, it would be assumed, could have rested the matter but not so. The injunction was discharged and Mwembeshi Resources Limited resubmitted its application for a licence to ZEMA. An attempt to stop the matter was unsuccessful following its dismissal on 25 February 2021 by the Court of Appeal on account of the appellant's failure to file a record of appeal within the required period. Counsel's attempt to persuade the court that the 'action has environmental protection at the core and as such ought to have been considered as a matter of public importance or public interest' was rejected. Chashi J held that'the appellant did not make any effort to seek the documents that were relevant for him to file the record of appeal.'[98] Consequently, on 7 May 2021, the government approved the Mwembeshi Resources Limited's mining project but subject to all environmental management commitments; submission of a detailed Tailings Storage Facility to ZEMA and MSD before project implementation; preparation and submission ofa decommissioning and closure plan; maintaining the environmental footprint of the mine as stated in the EIS; and employing the best available technology and best environmental practices throughout the project life cycle.[99] This is diametrical considering the bold statement made by the government two years earlier.

Suffice it to say that the PPP is fully endorsed notwithstanding its limitation.

TOWARDS THE PRECAUTIONARY PRINCIPLE?

The "precautionary principle" emphasizes that the 'lack of scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation, or possible environmental degradation, where there is a threat of serious or irreversible environmental damage, because of the threat.'[100] At the core of this principle is anticipation and proactivity; it favours monitoring, preventing and mitigating uncertain potential threats. The formulation of this principle links preventive and precautionary approaches in two ways: *firstly*, damage does not have to be serious or irreversible; and *secondly*, it reduces the level at which scientific evidence obtained might necessitate action. There are two variables to the formulation of the principle: (i) trigger condition and (ii) precautionary response. The trigger condition consists of a damage and knowledge threshold that determines the level of the required scientific understanding of an identified threat at which precautionary response is well-founded.[101] The precautionary response can be cost- effective or precautionary measures or stopping activities from proceeding. This principle is often associatedwith the notion that: scientific uncertainty is not a reason for failing to take action where there is an environmental concern; affirmative action should be taken concerning a specific environmental concern; the

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burden of proving the non-existence of environmental damage lies with those conducting the activity; and the State has the right to restrict activities where there is less than the required standard of full scientific certainty of harm caused on the environment.[102]

The Constitution 2016 and the EMA embrace the precautionary principle.[103] According to Article 255(c) of the Constitution 2016, 'where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.' The EMA, in section 6(c), also lists the precautionary principle as one of the principles that 'shall be applied in achieving the purpose' of the Act. To ensure the applicability of the principle, section 43(2) of the EMA obliges the Minister to make regulations in the absence of absolute or conclusive scientific proof of the degree of toxicity or the hazard posed by any substance, however, the regulations are yet to be made.

The precautionary principle stresses on avoidance of activities with the likelihood of irreversible environmental damage. The approach is different from the polluter pays principle that was earlier insisted upon by the court under the guise of proving demonstrable harm. In recent times, however, there is an apparent shift towards the precautionary principle. Though not specifically litigated upon, the courts are taking a precautionary approach towards activities that pose a threat to the environment. In ***Kasanka Trust Limited & others v Gulf Adventure Limited & 6 others***, the Plaintiffs applied for an order for an interim injunction against the 1st and 2nd Defendant to restrain them from continuing to cut down trees, cultivation of crops, abstraction of water from the Luwombwa River, construction works, fencing off or furtherdevelopments in the Kafinda Game Management Area. Kafunda J found that the plaintiffs 'do not have to prove that damage is being occasioned to the environment by the 1st and Defendant's activities.' He was, therefore, of the considered view that 'the status quo should not be maintained. It would be wiser to restrain ongoing activity rather than risk irreparable damage to the environment.'[104] The view of Kafunda J was fortified by what had been stated in *Moses Lukwanda & others.*

In ***Moses Lukwanda & others v Zambia Air force Projects Limited & others,*** the Applicant brought an action to prevent the Respondents from developing a building project in Lusaka East Forest Reserve No.27 which is ecologically and environmentally sensitive. He further alleged that the developments would disruptthe process of replenishing the underground aquifer and if not stopped, would have irreversible consequences such as drying boreholes and wells. The access of the residents to clean and safe water would also be curtailed by the Respondent's construction activities. Kondolo J stated:

In this regard, I would state that disputes to do with damage to the environment reside in a hallowed place and should enjoy the principles that apply to loss of land where one does not have to prove irreparable injury…In my view one does not need to prove that damage to the environment will result in irreparable injury because once damaged, the environment, like land cannot be quite restored to its original state and thedamage may result in untold suffering for generations.[105]

The reasoning of Kondolo J is consistent with that expressed in the case of *Zambia Community Based Natural Resource Management Forum & 5 others*. In ***Zambia Community Based Natural Resource Management Forum & 5 others v Attorney General & Mwembeshi Resources Limited***, the second respondent applied for permission to commence mining activities in the Lower Zambezi National Park but was denied a permit by the ZEMA. The Minister, after a protracted process, overturned ZEMA's decision.

This prompted the appellants to seek legal redress alleging that the decision by the Minister was erroneous. The second respondent counter-argued that the appellants did not demonstrate the harm suffered. In his ruling, Kondolo J stated that 'damage to the environment is a public concern' and 'for this reason, I find that the Appellants do not need to specify or prove exactly how they are affected by the project in question'.[106]

The reasoning of the court demonstrates pro-activity in dealing with environmental issues. Though not specially requested by counsel or the appellant, the court took a proactive approach to protect the environment from mining activities that could pose irreversible negative effects. Mulenga reiterates that such reasoning 'presents a new dimension of legal reasoning that accommodates prevention rather than remediation. In the context of environmental law, prevention is superior to remediation because some harm is irreparable, and also, clean-up is more costly than prevention.'[107]

CONCLUSION AND WAY FORWARD

The Polluter Pays Principle was developed to ensure that those that cause harm to the environment, bear the responsibility of paying the repair or restoration costs associated, including social costs. The rationale for doing so was not to waste public funds on the actions of the polluter. It was also aimed at ensuring that corporations adhere to sound environmental practices. The principle, though embodied under the EMA and MMDA, the mechanisms established therein are ineffective. This has resulted in a public outcry regarding mining activities that continue to pose a health risk even long after their closure. This notwithstanding, the polluter pays principle has been tightly embraced by authorities and some courts have endorsed it. Recent times, however, have seen a shift towards precaution rather than remediation. It can be argued that the cases of *Zambia Community Based Natural Resource Management Forum, Moses Lukwanda* and *Kasanka Trust Limited* are demonstrative enough. The courts need to go further by extending the liability of the government and local authorities. This would cause a shift towards precautionary measures while ensuring that provisions on compliance are enforced.

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4. Leigh, K "Evaluation Report: Kangaluwi open-pit copper mine in the Lower Zambezi National Park" 2014. Available:
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7. Lafarge Cement Zambia Limited PLC v Peter Sinkamba (Appeal No.169/2009).
8. Martha Muzithe Kangwa & 29 others v Zambia Environmental Management Agency, Nasla Cement Limited & Attorney General [2008] HP 245.
9. Martha Muzithe Kangwa & 29 others v Zambia Environmental Management Agency, Nasla Cement Limited & Attorney General (SCZ Judgement No 29 of 2014).
10. Mopani Copper Mines PLC v Miti & Others [2020] ZMSC 79.
11. Moses Lukwanda & Others v Zambia Air force Projects Limited & Others [2020] ZMCA 9.
12. Zambia Community Based Natural Resource Management Forum & 5 Others v Attorney General & Mwembeshi Resources Limited [2014] HPA.006.

Legislation and Instruments

1. Constitution (Act 2 of 2016).
2. Environmental Management Act, 2011.
3. Environmental Pollution and Protection Control Act, 1990.
4. Mines and Minerals (Environmental) Regulations SI 29, 1997.
5. Minister of Mines and Mineral Development Act, 2015.
6. Local Administration (Trade Effluent) Regulations, 1994.
7. Local Government Act (2 of 2019).
8. Public Health Act, Chapter 395.
9. Rio Declaration, 1992.
10. Urban and Regional Planning Act (3 of 2015).
11. Water Resources Management Act, 2011.

Footnote:

[1]. D Shelton & A Kiss Judicial Handbook on Environmental Law (UNEP: Nairobi, 2005) 22.
[2]. JM Wagner "International Investment, Expropriation and Environmental Protection" (1999) 29 Golden Gate University Law Review 3, 470.
[3]. Organisation for Economic Cooperation and Development, "Recommendation of the Council on Guiding Principles Concerning International Aspects of Environmental Policies" 26 May 1972. Council Document no. C (72)128. Available at: http://www.ciesin.org/docs/008-574/008-574.html (accessed on 17 February 2022).
[4]. MR Grossman "Agriculture and the Polluter Pays Principle: An Introduction" (2006) 59 Oklahoma Law Review 1.
[5]. Principle 16 of the Rio Declaration states: 'National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.'
[6]. Article 10(3), Constitution (Act 2 of 2016) provides: 'The Government shall promote local and foreign investment and protect and guarantee such investment through agreements with investors and other countries.' Mining is one of such sectors.
[7]. Minister of Mines and Mineral Development "Government Position and Strategy for the Mining Sector" First Session of Parliament, 6 October 2021.
[8]. Section 6(d) states that: 'The following principles shall be applied in achieving the purpose of this Act – the polluter pays principle.'
[9]. Article 255(B).
[10]. Section 32(4)(b). Similarly, section 111(a) provides: 'A court that convicts a person of an offence under this Act may, in addition to any other penalty impose— (a) order the person to take and pay for measures to avoid, remedy or mitigate any adverse effects arising from, or likely to arise from, the offence.' Further, section 6 states that, in achieving the objectives of the Act, it shall be guided by the PPP.
[11]. Section 4 provides that: 'The following principles shall apply to the mining and development of minerals— (a) mineral resources are a non-renewable resource and shall be conserved, developed and used prudently, taking into account the needs of the present and future generations; (b) mineral resources shall be explored and developed in a manner that promotes and contributes to socioeconomic development and in accordance with international conventions to which Zambia is a party; (c) the exploitation of minerals shall ensure safety, health and environmental protection; (d) wasteful mining practices shall be avoided so as to promote sustainable development and prevent adverse environmental effects; (e) citizens shall have equitable access to mineral resources and benefit from mineral resources development; and (f) development of local communities in areas surrounding the mining area based on prioritisation of community needs, health and safety.'
[12]. Section 2. This provision defines a "pollutant" as 'any substance whether liquid, solid or gaseous which— (a) may, directly or indirectly, alter the quality of any element of the receiving environment; or (b) is hazardous or potentially hazardous to human health or the environment; and includes objectionable odours, radio-activity, noise, temperature change or physical, chemical or biological change to any segment or element of the environment." A 'contaminant' is "a substance, physical agent, energy or a combination of substances and physical agents that may contribute to, or create a condition of, pollution.'
[13]. Organisation for Economic Cooperation and Development "Recommendation of the Council on Principles concerning Transfrontier Pollution" 14 November 1974 - C(74)224.
[14]. Section 45.
[15]. Section 2.
[16]. Section 46 provides: 'A person shall not discharge or apply any poisonous, toxic, eco-toxic, obnoxious or obstructing matter, radiation or other pollutant, or permit any person to dump or discharge such matter

or pollutant into the aquatic environment in contravention of water pollution control standards established by the Agency in liaison with the relevant appropriate authority.'

[17]. Section 48(1) of WRMA provides: 'Notwithstanding the Environmental Management Act, 2011, where any person discharges or disposes of— (a) any organic or inorganic matter, including water containing such matter, into a water resource, whether directly or through drainage or seepage, so as to cause pollution of the water resource; or (b) any effluent or waste water which has been produced by, or results from, the use of water for any purpose, into a water resource, whether directly or through drainage or seepage; that person commits an offence, whether or not that person acted intentionally, and is liable, upon conviction, to a fine not exceeding one hundred thousand penalty units or to imprisonment for a period not exceeding one year, or to both.'

[18]. C Mulenga "Foreign direct investment in the Zambian mining sector: The need for environmental protection and human rights" Unpublished LLD Thesis, University of Pretoria, 2017, 150.

[19]. Section 49, EMA.

[20]. Section 2 of the EMA defines "noise" as 'any undesirable sound that is intrinsically objectionable or that may cause adverse effects on human health or the environment.'

[21]. PC Mishra Soil Pollution and Organisms (APH Publishing: New Dehli 1989) 255.

[22]. C Mulenga "Foreign direct investment in the Zambian mining sector: The need for environmental protection and human rights" Unpublished LLD Thesis, University of Pretoria, 2017, 153.

[23]. C Mulenga "Soil governance and the control of mining pollution in Zambia" (2022) 6 Soil Security 2.

[24]. Section 2, EMA.

[25]. For instance, when MCM was privatised, the new owners refused to undertake environmental obligations that were historical. However, in their enforcement, the new mine owners also continued to pollute the air.

[26]. Section 110(1), EMA.

[27]. Section 4(4)(f), EMA.

[28]. Section 87(5)(b)-(f), 87(9), MMDA.

[29]. Section 110(3). Pertaining to legal costs, these may only be awarded if the primary motivation for seeking legal redress was for public interest or protection of the environment – section 110(4).

[30]. Section 32(1)(2).

[31]. Section 119.

[32]. Section 126. A director or manager may not be held personally responsible where they prove to the satisfaction of the court that, the act constituting the offence was committed without their knowledge, consent, or connivance.

[33]. Section 111(a).

[34]. Section 86(1).

[35]. Section 86(3), 81(2)(b).

[36]. Regulation 65, Mines and Minerals (Environmental) Regulations SI 29 of 1997.

[37]. Regulation 66, Mines and Minerals (Environmental) Regulations SI 29 of 1997.

[38]. Section 86(4)(a).

[39]. Section 86(4)(b), 75(4).

[40]. Section 86(4), 83(6).

[41]. Section 86(5).

[42]. Section 86(6).

[43]. Lafarge Cement Zambia Limited PLC v Peter Sinkamba (Appeal No.169/2009), J16.

[44]. Ibid, J17.

[45]. Report of the Auditor General on Management of Environmental Degradation Caused by Mining Activities in Zambia (GRZ: Lusaka 2014) 12.

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[47]. Section 111(1)(a),
[48]. Section 114.
[49]. Ministry of Mines and Mineral Development Resettlement Policy Framework: Zambia Mining Environment Remediation and Improvement Project (MMDA: Lusaka 2016) 2.
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[51]. Article 257.
[52]. C Mulenga "Foreign direct investment in the Zambian mining sector: The need for environmental protection and human rights" Unpublished LLD thesis, University of Pretoria, 2017, 185.
[53]. Article 151(2)(f).
[54]. Article 252(c).
[55]. Regulation 3(1), Local Administration (Trade Effluent) Regulations of 1994. Trade effluent has been defined as 'water or any other liquid which has been used for medical, trade or industrial purposes and as a result of such use has been polluted within or beyond the legally enforceable limiting values with respect to physical, chemical and microbiological characteristics and so requires treatment before discharge into the environment' – Regulation 2.
[56]. Regulation 3(2)(4).
[57]. Section 78.
[58]. Preamble, Urban and Regional Planning Act No. 3 of 2015.
[59]. Section 3(1)(e).
[60]. Section 3(2)(l).
[61]. Section 52(3)(d).
[62]. Section 69(1)(b)(ii).
[63]. Section 20(4)(a).
[64]. Section 9.
[65]. Section 10(1).
[66]. Section 47(1) (2). The local authority by virtue of section 2 of the EMA is referred to as "appropriate authority" which means 'the Minister for the time being having responsibility for, or such public body having powers under any other law over any natural resource, and includes a public or statutory office, body or institution under the following: (o) the Local Government Act.'
[67]. Section 48(a)(b)(d).
[68]. Article 43(1)(c).
[69]. Article 256.
[70]. Section 5, EMA.
[71]. Such an action could be to discontinue such an activity, compel any public officer to take measures to prevent or discontinue any act or omission; require an environmental audit or monitoring on any on-going activity; require a person to take measures to protect human life or the environment; compel the person responsible for any environmental degradation to restore the degraded environment; and provide compensation to any victim for the harm or omission and the cost of beneficial uses lost– section 4(4).
[72]. James Nyasulu & 2000 others v Konkola Copper Mines, Environmental Council of Zambia, and Chingola Municipal Council [2007] HP 1286, at J19–J20.
[73]. Ibid, J23.
[74]. Musonda J said: 'Environmental Protection is a global issue, that most countries have domestically legislated and as members of the United Nations have signed the United Nations protocols. There is little room for judicial intervention, Judges now have to interpret statutory provisions.' See: J20.
[75]. Section 32(2).
[76]. Section 32(4)(a)(b).
[77]. Section 32(5).
[78]. Section 126 of the EMA places criminal liability on every director or manager of a body corporate where a body corporate, in which they are a part of, commits an offence under the Act. The exception is where

'the director or manager proves to the satisfaction of the court that the act constituting the offence was done without the knowledge, consent or connivance' or 'that the director or manager took reasonable steps to prevent the commission of the offence.'

[79]. As above, J21.
[80]. As above, J20-22.
[81]. The EPPCA forbade pollution in s 24 by stating thus: "No person may discharge or apply any poisonous, toxic erotoxic, obnoxious or obstructing matter, radiation or other pollutant or permit any person to dump or discharge such matter or pollutant into the aquatic environment in contravention of water pollution control standards established by the Council under this Part."
[82]. Section 87(1), MMDA 2015.
[83]. Section 87(1).
[84]. Section 87(4).
[85]. Section 87(5).
[86]. Section 87(7).
[87]. Martha Muzithe Kangwa & 29 others v Zambia Environmental Management Agency, Nasla Cement Limited & Attorney General [2008] HP 245, J60.
[88]. Martha Muzithe Kangwa & 29 others v Zambia Environmental Management Agency, Nasla Cement Limited & Attorney General (SCZ Judgement No 29 of 2014), J44.
[89]. C Mulenga The Law on Mining and Environmental Protection in Zambia (Juta: Cape Town, 2022) 197.
[90]. Doris Chisambwe & 95 others v NFC Africa Mining PLC [2014] HK 374, J16–17.
[91]. Geoffrey Elliam Mithi v Mopani Copper Mines PLC & Attorney General [2014] HB 48, J32–33.
[92]. Mopani Copper Mines PLC v Miti & Others [2020] ZMSC 79, J86.
[93]. James Nyasulu and 2000 others v Konkola Copper Mines PLC, Environmental Council of Zambia & Chingola Municipal Council [2007] HP 1286, J21–22.
[94]. Konkola Copper Mines PLC v James Nyasulu & 2000 others (Appeal No 1 of 2012), J13.
[95]. Some of the reasons given by ZEMA were that the location of the tailing storage facilities was inappropriate and any possible failure would adversely affect the world heritage site; acid rock drainage and consequently the metal leaching had not been addressed; and the mining operation, notwithstanding the short-term benefits, would have far-reaching environmental consequences. See: Minister of Mines and Minerals Development "Ministerial Statement on Status of Kangaluwi Copper Project in Lower Zambezi National Park" Fourth Session, 7 November 2019, 2–3.
[96]. K Leigh "Evaluation Report: Kangaluwi open-pit copper mine in the Lower Zambezi National Park" 2014, 5. Available: https://www.researchgate.net/publication/269065425_Evaluation_Report_Kangaluwi_Open-pit_Copper_Mine_in_the_Lower_Zambezi_National_Park_Zambia?channel=doi&linkId=547ec6350cf2c1e3d2dc2893&showFulltext=true (accessed 15 February 2022).
[97]. Minister of Mines and Minerals Development "Ministerial Statement on Status of Kangaluwi Copper Project in Lower Zambezi National Park" Fourth Session, 7 November 2019, 6.
[98]. David Ngwenyama v Attorney General & Mwembeshi Resources Limited (Appeal No 1 of 2020), J23.
[99]. ZEMA 'Decision Letter: Mwembeshi Resources Limited' 7 May 2021, 3–4.
[100]. Section 2, EMA.
[101]. M Ahteensuu 'Rationale for Taking Precautions: Normative Choices and Commitments in the Implementation of the Precautionary Principle' 2007, 2–3.
[102]. D Shelton & A Kiss Judicial handbook on Environmental Law (UNEP: Nairobi 2005) 21.
[103]. Article 255(c) provides: 'where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'
[104]. Kasanka Trust Limited & Others v Gulf Adventure Limited & 6 Others [2021] HP 1280, R9–10.
[105]. Moses Lukwanda & Others v Zambia Air force Projects Limited & Others [2020] ZMCA 9, R33.

[106]. Zambia Community Based Natural Resource Management Forum & 5 Others v Attorney General & Mwembeshi Resources Limited [2014] HPA.006, J22.

[107]. C Mulenga "Judicial Mandate in Safeguarding Environmental Rights from the Adverse Effects of Mining Activities in Zambia" (2019) 22 PER/PELJ 27.