

# Evaluating the Effectiveness for the Protection of the Environment Towards the Effects of Quarry Exploitation in Cameroon

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## Abstract

In Cameroon in particular and the world at large, the exploitation and the processing of quarry resources by industries has brought about severe and adverse impacts on the environment and the local population within and around the quarry areas. This adverse impact ranges from environment degradation, pollution, health problems and environmental sustainability. To prevent this deplorable situation, the Cameroon Government has over the years instituted several mechanisms at the level of the ministries in charge of quarry exploitation and environmental protection in Cameroon as well institutions and industries involve in quarry exploitation. In order to attain our objective, qualitative research methodology has been adopted. This piece of work answers a specific research question which is how effective are the mechanisms for the protection of the environment from the effects of quarry exploitation in Cameroon and what are the challenges encountered? It is underpinned by the theory of environmentally responsible behavior. This theory advocates for responsible behavior from the communities as well as other stakeholders such as government, companies to adopt measures that minimize environmental impact. This includes implementing regulations, promoting community awareness about sustainable practices and encouraging the use of eco-friendly technologies. Finding reveals that although Cameroon has employed relevant mechanisms to address quarry activities and environmental protection, much is still required to be done. Based on the findings, the study strongly recommends the Cameroon Government to effectively implement its mining/quarry laws and make sure prior Environmental Impact Assessment (EIA), monitoring and evaluation are effective to make sure quarry industries operate within the legal frameworks while maintaining environmental sustainability.

**Keywords:** evaluating, effectiveness, protection, environment, effects of quarry exploitation, Cameroon

## 1. Introduction

Mineral resources constitute a major source of raw material for industries and an important ingredient for the development of an economy. Thus, while quarry yields economic materials for use, sale or industrial production, it affects, harms and contributes to a disruption of nature and appearance of the natural environment around it.<sup>1</sup> The Cameroon Government have over the years put in place measures to ensure that quarry potential favored economic growth while ensuring environmental sustainability. The problem in the Central African region and in Cameroon in particular is to translate theoretical legal issues or principles into realities on the ground<sup>2</sup>. In most areas, the environment in particular, there are a chunk of legal instruments regulating its management and

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<sup>1</sup> Omosanya, K.O. and Ajibade O.M., (2011). Environmental Impact of Quarrying on Otere village, Odeda, Southwestern Nigeria. *Ozean Journal of Applied Sciences*, 4(1), 75-82.

<sup>2</sup> UNEP *Africa Environment Outlook* (Nairobi – UNEP, 2006) p. 126.

protection. But these instruments hardly find themselves into implementation. If laws cannot find their ways into implementation, it would be the same like having a right without a remedy which as it is often said, is a vain thing<sup>1</sup>. Is the problem that of the absence of enforcement mechanism or the fact that they exist but are weak? In most cases, the problem is that they are weak. However, the Cameroon government has recently been making tremendous efforts to ensure the protection of the environment and ensuring that extractive industries especially industries involve in quarry exploitation in Cameroon respect all the measures instituted by the government to ensure sustainable environmental protection. It is thus important to dissert the mechanisms in Cameroon for the enforcement of environmental instruments to regulate corporate hazard caused by quarry industries thereby ensuring environmental protection. Administrative institutional and judicial frameworks are some of the mechanisms put in place to regulate environmental protection in Cameroon.

The researcher thus proceeds to examine the mechanisms put in place for the effective implementation of environmental instruments to combat corporate hazards caused by quarry exploitation in Cameroon and also look at the Challenges on the effective implementation of environmental instruments regulating quarry exploitation and environmental protection in Cameroon.

## **2. Institutional Framework for Environmental Protection and Their Role in Various Quarry Communities in Cameroon**

Legislations geared towards the protection of the environment are implemented by different ministries and authorities at the regional level (region, divisional and sub divisional levels). The Ministry of Environment and Nature protection has the bulk of the authority to implement legislation pertaining to the control of corporate hazards. Important responsibility relating to environmental regulations are also vested in the hands of other ministries, the most important being those of Industries of Mines and Technological development, the Ministry of Water and Energy, Ministry of Forestry and wildlife, Ministry of Agriculture and Rural Development. We shall proceed to examine the role play by these ministries in quarry sites, such as the Ombe China- Minhui-quarry, Limbe mile 4 quarry site, Arab contractor quarry Eloundem, and Cana Bios Carriere Bingala Mbankomo.

### *2.1 The Ministry of the Environment, Nature Protection and Sustainable Development (MINEDEP)*

The Ministry of the Environment and Nature Protection (MINEP), now Ministry of the Environment, Nature Protection and Sustainable Development<sup>2</sup> (MINEDEP) was created in 2004 by a presidential decree<sup>3</sup> organizing the government. It was formerly the Ministry of the Environment and Forestry but because environmental issues were and are still topical, the President decided to split this ministry into two to give more attention to environmental problems. MINEDEP is an overseer. It acts as a watchdog. It oversees the activities of other ministries which have environmental issues to manage.<sup>4</sup>

In the various quarry site such as the China Minhui quarry in Ombe, and the Arab contractor quarry Eloundem, the Ministry of Environment, Protection of Nature and Sustainable Development regulates the quarry exploitation through a framework that requires operators to obtain environmental permits. These permits mandate environmental impact assessments (EIAs) to evaluate potential ecological effects. The ministry enforces regulations on land use, biodiversity conservation, and rehabilitation of affected areas post-exploitation. Additionally, the ministry conducts periodic inspections to ensure compliance with environmental standards and promotes sustainable practices to mitigate environmental degradation caused by quarry activities.<sup>5</sup> Failure to comply can result in penalties or suspension of operations that is, it ensures that any individual or corporate body which breaks any law regulating the environment should be brought to book. It equally collaborates with other agencies to define measures for the rational management of natural resources.

### *2.2 Ministry of Mines, Industry and Technological Development*

The Ministry of Mines, Industries, and Technological Development plays a crucial role in promoting sustainable resource management while ensuring environmental protection. It develops policies that regulate mining and quarry activities to minimize ecological impact, enforces compliance with environmental laws, and promotes the use of clean technologies in industrial processes. For example, at the Arab contractor quarry site in Eloundem Mbankomo, a watering system is put in place to ensure that rocks are watered before crushing process to reduce the effect of dust emanating from the rock during crushing. The ministry also collaborates with stakeholders to implement environmental assessments and rehabilitation programs, ensuring that quarry activities are regulated

<sup>1</sup> Christopher F. TAMASANG, (2007). *The Right to Water in Cameroon: Legal Framework for Sustainable Utilisation*, p. 17.

<sup>2</sup> This name MINEP was changed to MINEDEP by Ministerial Decree No.2011/410 of 9<sup>th</sup> December 2011.

<sup>3</sup> Republic of Cameroon, (2004, December 8). Decree No. 2004/320 of 8 December 2004 organizing the government.

<sup>4</sup> *Ibid.*

<sup>5</sup> Interview conducted with Mr. Pepouna Alman, Environmental engineer Arab contractor quarry Eloundem, on 09 July 2025.

to reduce effects on the environment. Through capacity building and awareness initiatives, it strives to foster responsible practices in the mining and industrial sectors, thereby ensuring economic growth and environmental sustainability. The Ministry equally has several departments or divisions responsible for overseeing various aspects of quarry exploitation. The ministry regularly does periodical inspection to ensure that quarrying activities are conducted effectively while also protecting the environment.<sup>1</sup> The National Advisory Commission on Environment and Sustainable Development, this commission was created by virtue of article 10(2) of law no 96/12 of 5th August relating to environmental management. It is an institutional consequence of the Rio conference. It assists the government in its missions of development of coordination, execution and control of environmental policies. The CNCEDD is created by the decree no 94/259/pm of May 31st 1994 of the prime minister and modified successfully by decrees no 99/634/pm of June 09th 1999 and no 99/780/pm of 11 October 1999. It is a structured that allows the government to better manage the environment. It oversees the implementation of activities stemming from agenda 21.<sup>2</sup>

### *2.3 Ministry of Energy and Water Resources*

The Ministry of Energy and Water Resources in Cameroon plays a vital role in managing the country's natural resources, including water management and energy production. While its primary focus is often on energy and water supply, the Ministry is also involved in the regulation and oversight of quarry exploitation, which is crucial for both economic development and environmental protection. The Ministry monitors quarry operations to ensure compliance with established regulations. This includes regular inspections and reviews of the practices employed by quarry operators to ensure that quarries don't affect nearby water resources through sedimentation, pollution, and changes in hydrology and that they adhere to environmental protection standards. For example, the ministry ensure that the diesel fuel used in the Arab contractor quarry site in Eloumdem and the China –Minhui quarry is of good quality and equally ensure that the fuel do not split to pollute nearby water sources.

### *2.4 Ministry of Transport*

The Ministry of Transport in Cameroon plays a crucial role in implementing and enforcing regulations related to environmental protection and quarry exploitation. It ensures compliance with environmental standards during the transport of quarry materials, promoting sustainable practices. The Ministry collaborates with environmental agencies to assess the environmental impact of transport activities and takes action against any infringement of environmental protection laws. Additionally, it facilitates awareness campaigns among stakeholders to foster responsible quarry operations, safeguarding ecosystems while promoting economic development. The ministry equally makes sure that trucks used in the various quarries are insured. By regulating logistics and transport routes, the Ministry helps minimize adverse effects on the environment, contributing to national sustainability goals.

### *2.5 The Implementation of the EIA Legislative Framework in Cameroon*

Environmental Impact Assessment (EIA)<sup>3</sup> despite some shortcomings, still remains the main instrument to mainstream environmental concerns into development programmes and policies in Cameroon.<sup>4</sup> Thus the principal method of ensuring that environmental considerations are taken into account at the planning stage is to conducts an environmental impact assessment. The Ministry of Environment, protection of nature and sustainable development had the mandate to clearly elaborate and implement the National Environmental Management Plan (NEMP), a plan that clearly recommended an EIA for projects that were likely to affect the environment from a negative perspective. Indeed, the participation of Cameroon in the Rio de Janeiro conference in 1992 further boosted its positive philosophy in the arena of environmental protection. This is evident in the 1994 constitution that recognized the right of the Cameroonian populace to a sound environment and considers environmental protection a collective responsibility. EIA is prescribed in Article 16 of this legislative body. Law N0. 96/12 of 5th August 1996, which provided the main legislative bedrock or foundation for environmental management in Cameroon. Article 17 of the law prescribed EIA for all projects which had a propensity to degrade the environment. The EIA intends to limit damage in areas where projects take place and has become a pre-requisite to all large-scale development activities. Terms of reference are laid down by the Ministry of the Environment, Nature Protection and Sustainable Development. A public consultation with communities surrounding the area where the investment will take place is mandatory. Because EIAs are now compulsory

<sup>1</sup> Interview conducted with Mr. Pepouna Alman, environmental engineer Arab Contractor quarry company Eloumdem on 09 July 2025.

<sup>2</sup> Agenda 21 is a program of action for sustainable development worldwide.

<sup>3</sup> As per Law No 96/12 of 5 August 1996 in its section 4(0), Environmental Impact Assessment "shall be a systematic examination, with a view to determining if a project is environmentally harmful or not.

<sup>4</sup> Interview with Mr. Lemnyuy William, Sub- Director of Waste Management, Department of Standards and Control, Ministry of Environment, Protection of Nature and Sustainable Development. conducted on the 19/02/2025

requirements to all strategic development projects like industrial setup road construction, mining, forest exploitation, etc. it has to a great extent avoided major threats on industrial pollution caused by quarry industries in Cameroon.

## 2.6 National Mining Policy Implementation Fund

The creation of the National Mining Policy Implementation Fund is among the many reforms of the mining code. It is aimed at spearheading mining policies and local development. The NMPIF were set up for the implementation of the national mining policy and they include: a Mining Sector Development Fund, Mining Site and Quarry Restoration, Rehabilitation and Closure Fund and a Special Local Capacity Building Account.<sup>1</sup> Each of these funds serves different purposes. The Mining Sector Development Fund (MSDF) is intended to finance mining inventory activities so as to detect any anomalies and traces of minerals and also finance geological and mining infrastructural developments. The objective of the Mining Site and Quarry Restoration, Rehabilitation and Closure Fund is to finance the implementation of programs for the conservation and rehabilitation of the environmental damage resulting from mining projects. The resources of the fund shall equally be derived from the mining/quarry permit holders depending on the estimated cost of implementing the environmental conservation and rehabilitation program as established in the ESIA.<sup>2</sup> This particular fund is very important as its implementation has gone a long way to restore and rehabilitate the quarry environment. This way post mining accidents resulting from non-rehabilitated mining or quarry sites will be mitigated. The Special Local Capacity Building Account has as objective to finance Cameroon's economic, social, cultural, industrial, and technological development of human resources and local enterprises and industries.<sup>3</sup> The amount to be contributed shall range from 0.5 percent to 1 percent of the total profit of the mining company.<sup>4</sup> The exact rate shall be agreed and fixed during the negotiation for the mining agreement or as the parties may decide. The collection and management of these contributions shall be by mutual agreement between the State, the contributing mining companies and representatives of the population. The above mentioned NMPIF is very important for a sustainable mining sector. This initiative shall without doubt benefit both the mining operators as well as the local communities in which they operate.

## 2.7 The Role of Environmental Inspectors

The role of inspectors in environmental compliance and enforcement of environmental norms is very instrumental. The decree which creates the ministry of environment, protection of nature and sustainable development trusted the supervision and technical control of engagements taken on the national and international levels in matters of the protection of the environment principally to the Direction of Norms and control. There exist within this direction a National Brigade of environmental inspectors charged with the following role:

- The control of pollution, nuisance and environmental norms
- The follow up of the application of the national and international regulations in forced relating to the environment
- The repression of serious attacks on the environment

The actions of this brigade on the field such as the China Minhui quarry Ombe, Cana Bios Carrielle Mbankomo as well as the Arab Contractor quarry Eloumdem aim at sensitizing, preventing, encourage the putting in place of the best techniques and to sanction violation of environmental norms through environment inspection and control. Controls are carried out to verify if the norms pre-established to regulate environmental protection are respected.

The activities of environmental inspectors and controllers have already permitted the sanction of many quarry enterprises in violation of pollution norms. The reason for these sanctions are:

- Diverse pollutions.
- Default for the realization of environmental audit assessment.
- Prevention of the team of inspections, judicial police officers with special competence to exercise their functions.<sup>5</sup>

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<sup>1</sup> Section 233 of the Mining Code

<sup>2</sup> Section 235 *ibid*

<sup>3</sup> Section 236 of the Mining Code

<sup>4</sup> *Ibid*

<sup>5</sup> Interview with Mr. Lemnyuy William, Sub-Director of Waste Management, Department of Standards and Control, Ministry of Environment, Protection of Nature and Sustainable Development. conducted on the 12/02/2025

### 2.8 The Role of the Judiciary and Sanctions Provided

In addition to national legislation, Cameroon having a “common law” tradition has rely on case law to protect the environment. In general, “common law” represents a body of law developed through judicial decisions, as distinguished from legislative enactments. A fundamental tenet of the common law is the doctrine of *stare decisis*<sup>1</sup>. This doctrine states that when a point of law has been settled by Court Decisions, it establishes a precedent that is followed in later cases unless and until the precedent is overturned in a subsequent case for very specific reasons. While in “civil law” traditions, the heart of the legal system is a set of codes. Cameroon being a bi-jural legal system, applies both system<sup>2</sup>.

The Court most often, step in and protect the environment without necessarily looking for immediate proof of likely violation of the right to a clean and healthy environment. To facilitate the same, the Cameroon Constitution gives courts the power to make any order, or give any directions, it considers appropriate to prevent, stop or discontinue any act or omission that is harmful to the environment, or to any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment, or to provide compensation for any victim of a violation of the right to a clean and healthy environment.<sup>3</sup>

All these efforts are environmental good governance practices put in place to ensure an improved sustainable quarry practices in Cameroon. However, it should be born in mind that despite these efforts made by the Cameroon government in implementing environmental good governance principles to regulate quarry exploitation and the protection of the environment, challenges remain. Issues such as illegal mining, inadequate enforcement of regulations, and limited resources for monitoring still hinder effective governance. Continued efforts to strengthen legal frameworks, enhance public participation, and foster collaboration will be essential for ensuring that quarrying activities are conducted sustainably and responsibly.

### 3. Challenges on the Implementation of Environmental Instruments Regulating Quarry Exploitation and Environmental Protection in Cameroon

A considerable number of hurdles still persist with regards to combating industrial hazards caused by quarry exploitation which tends to degrade the environment in Cameroon. This hurdles or impediments are thus presented as follows:

#### 3.1 Hurdles of Implementation

Despite being party to several international instruments on the regulation of quarry activities and environmental protection, such as the Stockholm Declaration of 1972, the 1992 Framework Convention on Climate change, 1994 UN Convention to combat desertification, the 1992 Convention on Biodiversity, the United Nations Convention on Environment and Development of 1992 etc. The Cameroon government is still lagging behind in its obligations to implement the rights contained in these treaties. All these Conventions regulate human activities that may cause harm to both the environment and local inhabitant within and out of the project area. However, these treaties are not effectively implemented reason why the right to healthy environment exists only on paper.

Furthermore, instability of laws is a big challenge when it comes to implementation. Instability of the law is also an aspect of uncertainty of law. Laws in Cameroon are very volatile in natures. This is caused by constant modifications and/or repealing of laws shortly after they are enacted. The Cameroonian legislator never seems to address the future by trying to foresee subsequent societal changes and adopting laws, in consequence thereof. These changes, when they come, always seem to be a surprise. Yet legislative drafts-Man ship requires that a law should as much as possible, look far ahead of time and make provision in consequence.

#### 3.2 Inter Institutional Conflicts

Another problem that impedes the amelioration of industrial hazards and environmental protection in Cameroon is the distribution of functions among the various ministries that play a role in addressing industrial hazards and environmental protection. Let us take for example the issue of the control of industrial establishments in terms of pollution, nuisances, hygiene and safety. The Ministry of Environment, Protection of Nature and Sustainable Development, the Ministry of Industrial and Commercial Development and the Ministry of Mines, Water and Energy all compete to affect the regulation of industrial establishments in terms of pollution, nuisances, hygiene

<sup>1</sup> To stand by things decided, a maxim expressing the underlying basis of the doctrine of precedent, i.e. that is necessary to abide by former precedents when the same points arise again in litigation. (*Oxford Dictionary of Law*, Fifth Edition, (2002), p. 475).

<sup>2</sup> Cameroon has a Common Law and Civil Law System owing to its colonial past. However, certain aspects of the law have been harmonized, such as environmental law, criminal law and criminal procedure law.

<sup>3</sup> Ekabe Elema Joyce, (2021). The Role of the State in the Promotion of Mining Activities in Cameroon: Legal Perspective. *Texas Journal of Engineering and Technology*, 2, pp. 8-16:11.

and safety. Given this overlap between the various functions of the above-mentioned ministries, inter-ministerial conflicts are bound to prevail thereby hindering the effective and efficient management of quarry activities and the protection of the environment in Cameroon.

### 3.3 *Insufficient Monitoring of Compliance*

The state monitors quarry activities through administrative supervision, technical control and the imposition of penalties in cases of non-compliance. Administrative supervision deals with the verification of authenticity of relevant documents and reports by quarry inspectors to ensure regularities in the quarry sector. Technical control is concerned with issues of technicalities such as hygiene and safety at the quarry site, the use of quarry equipment and conformity with labour laws at the workplace. To ensure compliance, the mining code prescribes for the establishment of violations, offences and penalties, conferring powers to judicial police officers with special jurisdictions.<sup>1</sup> Most often, the authorities in charge of monitoring are insufficient especially in some parts of the country where accessibility is difficult.

Law N0. 96/12 of 5th August 1996, which provides the legal framework for environmental management in Cameroon, on the other hand may seem adequate in that it takes into consideration every activity that needs to be within certain environmental limits including industrial pollution. However, monitoring to ensure compliance of this law is inadequate. Ministries like the Ministry of Scientific Research have appropriate monitoring equipment in place like the Atomic Absorption Spectrophotometer. However, it is fair to establish that the reluctance of most scientists of this Ministry to carry out monitoring of industrial pollutants could be partly responsible for the prevailing state of industrial pollution among quarry sites in Cameroon. Indeed, without sufficient monitoring, enforcement of laws governing industrial pollution in Cameroon is to say the least unrealizable.<sup>2</sup>

### 3.4 *Lack of Infrastructures*

The lack of infrastructural development is another major challenge facing the quarry sector. Road which accounts for about 70% of the country's transport network is currently constrained by the poor nature of the road.<sup>3</sup> Cameroon is an important transit country among the landlocked countries in central Africa, but the dire state of its infrastructures leads to an increase in transport cost and an unusual delay.<sup>4</sup> Inadequate transportation networks therefore limit access to remote areas, and insufficient monitoring facilities hinder regulatory enforcement, making it difficult to oversee compliance with environmental standards.

### 3.5 *Language Barriers*

Article 1(3) of the constitution provides that, the official languages of the republic of Cameroon shall be English and French both having the same status. But in reality, this is a myth when enacting and promulgating laws. Article 31(3) of the constitution stipulates that; laws shall be published in the official gazette of the Republic in English and French. But this is not the case because most environmental legislations are contradictory to that provision since most of environmental legislation, particularly decrees are in French. This makes it difficult for the English-speaking communities in Cameroon to understand environmental policies and also for their judges to enforce the laws that are not clear to them.<sup>5</sup> Thus this lack of comprehension leads to inadequate compliance and reduced community engagement in environmental protection initiatives.<sup>6</sup>

### 3.6 *Poor Attitude of Quarry Exploiters Towards Environmental Protection*

Quarry exploiters' attitude towards environmental protection within the urban area shows an insignificantly small acknowledgement of environmental degradation or consequences resulting from quarrying. Quarry exploiters are unaware of the consequences of their activity on the environment, and so reject the responsibility towards protecting or rehabilitating the environment. Worst still the environmental regulations are not stringent and the exploiters follow no particular technical conditions in the course of their exploitation sites.<sup>7</sup>

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<sup>1</sup> Sections 202-230 of Mining Code.

<sup>2</sup> Dieudonne Alemagi, (2006). Towards A Comprehensive Strategy for The Effective and Efficient Management of Industrial Pollution Along the Atlantic Coast of Cameroon, p. 60

<sup>3</sup> KPMG Global Mining Guide. Available online at: [Kpmg.com/mining](https://www.kpmg.com/mining), (Accessed 24, June 2024).

<sup>4</sup> African Development Bank, (2010), The AfDB and Cameroon 40 years of partnership.

<sup>5</sup> Nchifon Robert Elvis Yenkuh, (2021). The Manifestation of Environmental Pollution in Cameroon: A Legal Appraisal. *International Journal of legal developments and allied issues*, 8, 55-76:73.

<sup>6</sup> *Ibid*

<sup>7</sup> Interview conducted with Mr. Remond Yasu, workers delegate China Minhui quarry company Ombe, on January 12 2025.

#### 4. Conclusion

Environmental protection mechanism are vital instruments for safeguarding our ecosystem and promoting sustainable development in Cameroon. Efforts to protect the environment from the effects of quarry activities in Cameroon have focused on developing environmental institutions and legal frameworks. However, formal regulation alone has not proved very effective in reducing these effects. Several innovative approaches are now emerging as effective ways to improve environmental compliance. These include environmental management systems, Environmental Impact Assessment, cleaner production, negotiated agreements, and government-industry partnerships. The success of environmental regulations also depends on a culture of compliance that is the result of a country's legal traditions, the maturity of its institutions, the available resources, and the capacity and support of citizens and the private sector. Compliance does not automatically happen when requirements are legislated and issued; rather, it is achieved as a result of targeted efforts that encourage behavioral changes on the part of polluters, as well as coordinated efforts across all levels in the society.

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