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## Review

# The Role of Nigerian Insurance Industry in Environmental Risk Management in the Nigerian Quarry Industry

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**This study examined the role of Nigerian insurance industry in environmental risk management in the Nigerian quarry industry (evidence from Abakaliki quarry industry). The study shows that most of the activities in the quarry industry do result to health hazards. The inhalation of fumes, smokes and dust in the quarry site cause a lot of diseases to workers, third party, people who live close to quarry sites and the immediate environment. The implication of effective risk management in the Nigerian quarry industry include reduction of injury and health hazards, reduction of the cost of legal claims on the company, employees will not be exposed to unnecessary dangers, will lead to more production and profitability of the company and will also reduce environmental pollution. Thus, these could better be achieved by embracing insurance because of the significant role it plays in management of environmental risk in Nigeria. At the end, it was recommend that; industrial sites should be located out-sketch of towns to reduce pollution, workers should be provided with safety gadgets in the quarry sites, there is need for regular environmental survey, government should enact relevant law and policies that will help preserve our environment, insurance should be embraced as a put option for effective environmental risk management in the Nigerian quarry industry. Moreover, the Nigerian insurance industry should introduce new insurance policies to complement the few existing ones so as to close the existing gap in environmental risk management in Nigeria.**

**Keywords:** Quarry, environment, pollution, risk, hazard, insurance industry, risk management.

## INTRODUCTION

Risk exist in all the extractive activities especially in the mining and quarrying industries. In the quarrying industry, most of the activities do result to health hazards which do constitute some injuries or wounds to workers through accidents or negligence or inadequate protection resulting from improper risk management. The inhalation of fumes, smokes and dust in the quarry site cause a lot

of diseases to worker, third parties and people who live close to quarry sites in Abakaliki (Oditte, 1993). The inhalation of friable, asbestos fibres and fumes has been linked with three diseases like asbestiosis, lung cancer and mesothelioma (Adirika, 1994). Employment of people that are ill experienced and not qualified also cause a lot of damage. This study therefore evaluate the role of

Nigerian insurance industry in environmental risk management in the Nigerian quarry industry evidence from Abakaliki quarry industry.

### **Concept of Quarry**

A quarry is a large deposit of rock such as granite which is mined for use in construction projects. Quarries can be found all over the world, and most contain a heavy concentration of a particular type of rock such as marble, limestone, slate or gypsum. In many nations, the word quarry is used interchangeably for two types of quarry gravel pits, from which gravel and particulate matter are extracted, and dimension stone quarries from which large chunks of sheets of rock are extracted for use in building. Dimension stone is used to make tiles, flagstones, counters, roofs and other projects which requires large slabs of uniform stone

### **The Concept of Occupational Safety**

Occupational safety are those devices provided to secure the life and other unnecessary injury and health hazards to workers under the employers liability act of 1969 which started in 1972 in Nigeria, it is the duty of the employer to provide some protective gadgets to workers in the industry such protective devices are asbestos gloves, metal mesh gloves, safety boots shoes, rubber overshoes reinforce of shoes, face shields, acid proof hood welding helmets etc the essence of all these protection is that if loss occurs to the employee, or if it is caused by the negligence of the fellow employee the employer will be held vicariously liable. Hence it is a serious affair and no country takes it for granted not to offer adequate protection to their citizenry. The introduction of National Health Insurance Scheme in May 1999 and the Contributory Pension Scheme of June 2004 are all in the way of protecting the employees in various areas of their operations.

### **Historical Development of Occupation**

God Almighty created everything and made it virgin. The creation of Adam on the 6th day was to create users of the items created by God. God created Eve from the rib of Adam, kept them in the paradise and gave them warning that they should eat every fruit except one. They offended their benefactor by eating the forbidden fruit. God poured His anger on them and sacked them from the paradise. Adam went into struggling, the population continue to increase and the need of man continued to increase to the time, one therefore has to seek job in another persons industry to be paid as a consideration,

that is the history of employment in United Kingdom prior to 1833, where the employees were exposed to danger and if anything happens to them nobody cares, the problem brought the employees strike and the government investigated and found it worthy to make laws to protect employees against injury, wound, accident, death etc, and in united kingdom it was made compulsory in 1948 and in Nigeria 1969. The problem in Nigeria is the enforcement of those laws; weak enforcement of law are the major problem Nigerian Government is facing (Nwite, 2004).

### **Reasons Why People Engage In Various Occupations**

1. To find their daily earning, people work to get money to meet their basic needs.
2. People work to make money and live a better life like buying houses, marriage, vehicles
3. People engage in various occupational to get money and after marriage and children comes to be able to train the children. (Mordi, 1987).
4. People also get employment is enjoy their profession.
5. People engage in occupation to make money and train, carter for their parents, younger ones.
6. Idle mind is said to be a devils workshop, people works to be busy and make money.
7. People went to school to acquire knowledge and after that knowledge will be transfers to other people and that is among the reasons for engaging in occupation.
8. People engage in occupation to make money and build their on industry (Okonkwo, 2002).
9. For class identification people engage in various occupations to enable them be identified in the groups in the society.
10. People also work to safe for the raining day. If they should retire, they must safe money at younger age to use at old age, they will also be paid pensions and gratuity.
11. For adequate health services, people work to make money so that they can have adequate health care if they are sick mostly at old age.

### **Various Types of Activities that Take Place in the Quarry Industry**

There are a lot of activities that takes place in quarry industry like

1. Crushing of the stone
2. Extraction of the stones using explosives.
3. Breaking the stones with machines
5. Carrying the stones/quarry to the machines
6. Operation of the machines
7. Carrying the quarried materials.

8. Loading the quarried material
9. Third party coming to the premises (Carter, 1975).

### **Various Types Of Risks That Arises In The Premises**

There are a lot of risks that arises from all those activities.

1. The crushing machine can cut ones fingers (Nwite, 2007).
2. The rotating belt can cut and injure the operators.
3. The crushing stone can injure somebody resulting to death. (Downing, 1996).
4. The explosive can damage people's property and cause fire.
5. People inhale the dust, that comes from the activities.
6. Third parties can be injured within the premises and outside the premises.
7. Depending on the types of explosives used, it can create dams.
8. Vehicle are used, so accident are likely to occur from its use.
9. The life of the workers are at stake (Oditte, 1993).
10. The workers are also exposed to some health hazards.
11. The employer might have not provided necessary equipment to be provided.

### **Measures Used in Managing The Risks in The Quarry Industry**

- a. Considering the situation of the quarry in its relation to roads, the third party property generally.
- b. The nature of the fencing quit apart from any statutory obligation, adequate fencing is clearly essential if there is the possibility that third parties (including animals) may be in the vicinity.
- c. The nature of the materials quarried.
- d. The extent, nature and type of explosives used the size of charges the experience of the firer and the storage arrangement. Damage may be caused through the air, or ground and it may be found necessary to improve the excess.  
The insured will be expected to take stages to warn people in the neighbourhood when explosives may be used.
- e. The nature and types of machinery or plant used.
- f. Whose vehicle convey the quarried materials, how far is the place and the manner in which loading takes place.
- g. Whether there is light railway for transportation of materials from the site.

- h. What auxiliary processes are carried on by crushing or screening, if any enquires will need to be made on the items mentioned above.

### **The Duties and Liabilities of The Employer**

There are three major and main duties of an employer

1. To provide proper premises, proper plant and appliances by means of which the workman's duty is to be performed.
2. To maintain premises, plants and apparatus in a proper condition.
3. To establish and enforce a proper way of working.

From the above major point, the employer therefore has the following liabilities.

- Total failure to provide necessary plant
- Failure to provide sufficient plants.
- Providing defective and dangerous equipment
- Maintenance of plants
- Failure to remedy known defects
- Discovering of unknown defects
- Failure in carrying out repairs
- Selection of good plants
- Premises and plants of third party
- Suitable ad competent employee
- Proper system and method of working

### **The Concept Of Risk**

Risk has been defined as chances of loss, chances of misharp.

Mordi (1987) defined risk as chances of financial miscalculations.

Odo (2004) defined risk as chances of miscalculation.

Nwite (2007) defined risk as the uncertainty of an event happening or not happening. Life on its own is full of uncertainty. It is because of these uncertainties, that brought about risk management and insurance. Anthonio in the Merchant of Venice Act one scene one said that a man is a bundle of risk. Anthonio was an importer and exporter, general merchandise, but he said that his future is not secured. People go to court everyday because of human interaction, death occur, accident, financial misharp. It is because of these that Eric Kenester of German said that the more technologically we are developed the more we are exposed to problems hence cannot do without risks.

### **Various Types of Measures Adopted to Reduce the Impact or Risks in the Work Place**

1. Reduction of use of highly flammable liquids.

2. Provision of safe operating procedures, provision of safe disposal of flammable liquid.
3. Provision of helmet for the head
4. Provision of cover goggles tempered goggles for the eyes.
5. For face protection like face shield, babblitting helmet, acid proof hood, air supplied hood, welding helmet (Okeke, 1995).
6. For hand protection such equipment like asbestos gloves, metal mesh gloves, rubber gloves, leather gloves, heated industrial gloves coated fabric gloves, hard leather etc.
7. For arm protection such as protective sleeves robber sleeves skin protection. (Ademyi, 1986).
8. For protection like safety booth, shoes, and rubber overshoes, reinforced shoes metal free shoes and finally leg protection make use of leggings and knee pads. Respiratory equipment is also available and should be used to control occupational diseases caused by breathing contaminated air.

### **The Expected Impact of Effective Risk Management in the Quarry Industry**

Risk exist in all the extractive activities. Asbestos for instance is a naturally occurring mineral composed of long silky fibers that have acoustic and insulating qualities. The insulation of friable, asbestos fibres has been linked to three diseases like asbestos lung cancer and mesothelioma. Pollution of water, air has caused a lot of damage to the ecology, (plants and animals) and the inhabitants. Damage caused by most of the activities on one hand has made agricultural production very low. The usage of equipment can be dangerous.

Employment of people that are ill experienced and not qualified can cause a lot of damage. People are naturally careless, it is necessary to interview access and train people after employment. Lack of machine maintenances, repairs and services can cause a lot of danger to the premises the environment should be kept clean, swept daily, people should be forced to put their protective gadgets, not only providing them, but enforcing them to use it; is very necessary. Facing the premises against third parties. Putting up signals indicating danger, visitors not allowed is very necessary.

Repairing the vehicles, having experienced staff in such experienced staff in such experienced areas is also good measures for managing risks in the quarry industry and in other extractive industries. These risks that cannot be managed, avoided, retained should therefore be transferred to the insurance companies.

### **The Expected Role of the Insurance Industry in the Management of Such Risks**

Insurance as a profession, as a discipline, a business as a way of mitigating losses has alot of definitions, insurance can be defined as a pool of risks by the pooling school of thought. The transfer school of thought defined insurance as a risk transfer mechanism. The technical school defined insurance as a process where by losses in lightened upon many rather than heavily upon few lvamy (1979) defined insurance as a contract between two parties, the insured and the insurer whereby the insured pays a small consideration called premium, in view of the risk insured, so that if a loss occurs, the insurer will be put the insured in the same financial position he/she was prior to the loss it was because of the emergence of risk that brought about insurance to reduce the impact, the severity of the loss. Insurance companies therefore offer various categories of policies to remedy the loss. Such policies offered to a quarry extractors are fire policy accident, policy health insurance policy, life insurance policy, legal expenses insurance policies, professional indemnity policy third party insurance policy third party insurance policies legal expenses insurance policy etc brief explanations of some of the policies and their importance are as follows:-

#### **Employers liability insurance**

This is a compulsory insurance in Nigeria. It aids to protect the employees against any risk resulting in the course of their employment.

#### **Legal expenses insurance**

The purpose of legal expenses insurance is basically to provide reimbursement for costs arising out of need to seek legal advice or to pursue or defend a civil action. Originally, such cover was would thereby be relieved of the cost involved in consumer or domestic dispute.

#### **Accident insurance**

This policy will cover unexpected accident which may occur to member of the company. It covers the employers and employers from all accident injury.

#### **Fire insurance**

Fire implies something which ought not to be on fire

being caught by fire. This insurance policy provide standard fire policy to protect the insured against fire lighting and explosion to a limit extent example explosion of boiler use for industrial purposes. Explosion to a greater extent can also be covered where additional premium is paid.

### Professional indemnity

This policy is affected by different people in different profession. It covers them against any loss or damage arising as a result of performing their professional duties. This policy are affected by Doctors, Lawyers, Brokers, Architects etc.

### Theft Insurance

Theft policy form varies between insurer although certain factors are common to all theft insurance, it only protect the insured if there is entry into or exist from the premises by forcible or violent means. It does not protect the one with free entry or exist with the use of master key or by trick. (Nwite, 2004) etc.

### The Impact of Effective Risk Management and Insurance Policies in the Quarry Industry

1. It will reduce the cost of legal claims on the company.
2. Effective risk management will also reduce the impact of liability risk on the employer.
3. The employment will know what to do, and do them when they are supposed to be done to reduce unnecessary risks.
4. Employees will not be exposed to unnecessary perils, dangers where they are working.
5. Insurance policies puts the insured back to the financial position he/she was prior to the loss. It the employer appreciates that.
6. It also reduces burden to the family of the employees if the unexpected happens in case of injury or death; hence a relief to employer.
7. It also saves money for the employer by not wasting it to pay claims hence more money will be available for investment
8. Good management will bring more people employed, because less or losses will occur and more money saved fir investment.
9. It will create employment generally.
10. The company will also expand in width and breath.
11. Government will not impose unnecessary liabilities on the employer, because they are doing what they are supposed to do.

12. Cases of going to court will also reduce if it is done, if not eliminated.

### CONCLUSION

Occupational safety is a national issue any day any time. No country takes it for granted that is why a lot of law have been enacted over the years such as, employers' liability Acts, workmen compensation Acts and occupational safety Acts to protect the employees and other third/parties. This is in recognition of the fact that health is wealth.

Good health condition is required for good production thus, effective environmental risk management in quarry industries will help reduce injures, health hazard, diseases and pollution. This could better be achieved by embracing insurance because of the significant role it plays in management of environmental risk in Nigeria.

### RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made;

1. That industrial sites should be located off towns to reduce pollution.
2. Workers should be provided with safety gadgets in the quarry sites
3. There is need for regular environmental survey to help identify possible risk exposures in the quarry site
4. Workers should be sensitized on the best risk management measures in quarry sites through seminars and conferences
5. Insurance should to embraced as a put-option for environmental risk management in the Nigerian quarry industries.
6. Government should enact relevant laws and formulate policies that will help preserve out environment.
7. Nigerian insurance industry should introduce new insurance policies to complement the few existing gap in environmental risk management in Nigeria.

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