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Review

Strategies of Environmental Risk Management in Nigeria

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Environmental risk simply refers to disasters which affect lives and properties within environment as a result of the action of man and other natural phenomenon. There are several types of environmental risks in Nigeria today ranging from pollution, global warming, ozone layer depletion, land degradation, flooding, deforestation, soil erosion and atmospheric contamination, this study therefore, evaluates the various strategies of environmental risk management in Nigeria. The study shows that there are various strategies of environmental risk management which include; risk avoidance, risk reduction, risk retention, risk transfer, diversification, opening of contingency fund and by insurance arrangement. It was discovered that among the various option for environmental risk management, insurance is the best option. The implications of using insurance in environmental risk management includes; better spreading of risk, reduction of losses, effective environmental survey and risk control measures, and risk management advisory services. Recommendations were made that government should embark on aggressive environmental risk management campaign, sensitize Nigerians about the dangers of environmental hazards/risks and possible strategies of managing them, laws should be enacted to help protect our environment, there is need for proper urban and rural planning, industrial areas should be located out-sketch of the town to prevent pollution, there is need for regular environmental survey to help predict future environmental hazards/risks such as flooding, drought etc.

Keywords: Risk, environment, risk survey, risk management strategies, pollution/hazard.

INTRODUCTION

According to Okonkwo (1998), environmental risk management strategies are those techniques for managing environmental hazards or risks. Environment is the total surrounding of an organism in a given area including the physical surrounding, climatic factors and other factors (Okorie, 1992).

According to Mba (1996), environmental is the sum total of all conditions that surround man at any point in time on earth. Environmental risk management is the identification, evaluation and economic control of those

risks that threatens lives and properties in an environment. Risk on the other hand is the chance of loss (Okonkwo, 1998).

A lot of activities take place in our environment on daily basis such as road construction, oil exploration, deforestation, mining, quarrying, farming and other industrial activities. These activities and others not mentioned in one way or the other constitute environmental problem to the inhabitants (man and other living things) of such environment. Such risks include

accident, death, sickness, financial loss and environmental degradation. It is against these background that this study is aimed, to evaluate the various strategies of Environmental risk management in Nigeria.

The Concept Of Environment

The Oxford Advanced Learners English Dictionary defined environment as conditions, circumstances, etc affecting peoples' lives. It is the complex of physical, chemical and biotic factors that acts upon an organism or an ecological community and ultimately determines its survival (Encyclopedia Britannica Vol. 4).

Haggets (1975) defines environment as the sum total of all conditions that surrounds man at any point in time on the earth, surface viewing human environment from the economic point.

Oditte (1993) describes it as natural, capital and analogous to financial capital assets. In this case, any damage done to the environment runs down capital, which sooner or later reduces the value of its recurrent services.

For residential housing environment for instance, is any damage or deviation from its ideal situation puts the health of its resident at stake. The residents as well can be psychologically affected when any little damage (or disturbance from its ideal condition) is done to residential housing environment. This is why there is cry for sustainable development. These are development that will take cognizance of the meeting of future needs.

Carter (1977) categorized environment into air environment, water environment, noise environment, biological environment, another way in which environment is categorized broadly is that which groups it into physical land, air and water environment and the none economic environment.

Various Activities That Take Place On The Environment

The effect of major environmental hazard cannot be over emphasized. However the most worrisome of them all, as of now are the global environmental ones. The problems created by them are threat to both aquatic and terrestrial life and can lead to their extinction. The major global environmental hazards range from pollution (air water and noise) to biological losses. Deforestation and atmospheric contamination. Each particular problem has had a linkage effect with another, which tends to exacerbate the effect with another thus creating waves of anxiety. Worry and concern for all lovers of the environment.

These various types of environmental hazards in Nigeria includes the following:

Pollution

This is one of the various types of environment hazard in Nigeria. This phenomenon occurs whenever potentially harmful substance are released into the environment pollution on the whole is causes principally by human activities, though it can also be a natural process. It is usually classed according to the receiving agents of air as emissions water as effluents and land as dumps and disposal. (Ukpong: 1994).

Pollution can be categorized into three major types Viz: Air pollution, water pollution and noise pollution.

Environmental or air pollution arises from people's economic and domestic activities like modern agriculture which requires pesticides that pollute the atmosphere or enter water system via run – off and sewage. Industrial activities are responsible for wide rang of pollution. Thermal power stations, burning fossil fuel and moving vehicles emit harmful pollutions like sulphur dioxides, nitrogen oxide and carbon dioxide that cause acid – rain global warming and malfunctioning of hum/animal's hemoglobin's.

Mba (1996) identifies major sources of water pollution in Nigeria to include industrial plants, decomposed domestic wastes, solid minerals mining activities as well as petroleum mining operations. In his own view Odiote (1994) identified water pollution sources as arising from soil erosion the discharge of industrial and household effluent wastes (untreated) into the water bodies and the growth of water. Okorie (1992) identified the distribution of unchecked gully erosion as a source of water pollution, according to him, the gully erosion has destroyed extensive farmlands and development projects.

In addition to the above discourse, another major environmental problem is flooding. According to UNDP (1995) Lagos., flooding arises from rivers and streams over flowing their banks. The occurrence is seasonal and is usually during and after the rainy season. In some areas it is an annual occurrence.

Rainfall has been identified as a primary causative factory for flooding. In addition, clay soil are more prone to flooding and many of the eastern states available to flooding (Cabdhali, 1995)

Furthermore another major environmental hazard is noise. Noise is most often defined as unwanted sound. Noise is usually measured in Decibels (db) and is generated mostly in high density urban areas or even in the industrial areas that usually use industrial plants as their sources of energy.

Global Warning

This is also one of the various types of environment hazard in Nigeria. This is the continued build – up of green house gases in the atmosphere. These gases which include carbon dioxide, methane, nitrous oxide,

chloro-fluorocarbons among others block some of the heat radiated from the earth to cause green house effect. According to inter-governmental panel on climate change (IPCC), the last two decades of the 20th century are the hottest on record (UN, 1998).

Some of the major causes of increasing emissions of green houses gases are the burning of fossil fuels for energy and transport the clearing of forests, which reduces carbon dioxide absorption cattle raising which produces methane emission as a by-product and use of technology that pollutes. Accordingly this global warming led to the rise in sea water level leading to soil erosion, flooding and droughts.

Ozone Layer Depletion

This is also one of the various types of environmental hazards in Nigeria. The Ozone layer is basically found as a height of about 20 – 30km above sea level. This Ozone Layer provides a protective layer which prevents the penetration of sun harmful ultra violent rays. Joe (1995) in his findings proved that the Ozone Layer depletion was even greater than predicted.

The pollution of the atmosphere from the release of CFCS gases causes the depletion of the zone layer an this results in environmental degradation.

According to Ukpong (1994) most of the skin disease and the low productivity in agriculture are caused by ultra-violent rays. Also increase in ultra – violet radiation affects water bodies, disturbs aquatic life which support the food chain, and causes the death of fishes that feed us. It also causes deterioration of synthetic materials such as paints, and other products used in the building industry, Invariably causing deterioration of housing delivery to our ever increasing human population.

Land Degradation

This is one of the worst environmental hazard in Nigeria. Over 40 million are affected in Nigeria. This has led to food shortages and health problems in Nigeria.

Ukpong as (1994) noted the causes of land degradation as follows;

- i. Improper resources management
- ii. Destructive logging of our forests
- iii. Overgrazing and over cropping of Arable lands
- iv. Flooding and wind erosion menace
- v. Strip mining in Jos and Enugu areas
- vi. Land degradation with pesticides and fertilizer
- vii. Some known natural – land slides etc.
- viii. Destruction of wet lands and marshes for development

He also identified other indirect causes of land degradation to include the population growth and

population influx, property ownership issues, lack of control, enforcement measures and jurisdictional overlap which are due to unclear authority and the use of inappropriate technology for farming and even for producing manufactured goods.

Atmospheric Contaminaiton

Atmospheric contamination is the reduction in quality of the air environment. This is caused by natural and man-made activities. Some of the natural causes include volcanic eruption, where winds, earthquakes etc. While the man-made causes are inappropriate solid waste disposal, gal flaring, oil exploration, industrial pollution, coastal erosion etc. The above-mentioned causes are known to affect both aquatic and terrestrial lives and contribute to bio-diversity loss. (Adeleke. Et al 1978)

Various Risks That Arises In Environmental Activities

Professional default, Wrong advise, Contagious diseases from pollution, Accident, Extraction may result to death, Court case might arise, Inhaling some defective substances, Risk of theft, Risk of fire explosion, Risk of water over floating, Destruction of aquatic plant, Risk of poisoning.

Some of these risk are elaborated under:

Risk of accident

The fumed that comes our\t of the exhaust pipe of a car which form part of air pollution can cause accident on the road apart of its affect health condition of people. (Nwite: 2004).

Risk of deafness

Noising environment like an industrial area that usually use electricity generator (plants) can cause deaf to the residents there.

Risk of aquatic / animal destruction

Various activities like throwing of sharp objects into the river/sea in a bid to achieve some thing can cause harm to the beings inside the river. Also, deforestation can cause harm to animals because it leads to their exposure to various risks. Some use some chemicals on rivers

(Canter: 1975).

Risk of poisoning

Water pollution, for example which might result from breakage of oil, pipe, washing of clothes in the river/stream that people drink can cause sudden death for users of the water. (Caroline: 1980).

Risk of farm destruction

Overgrazing of livestock in a particular piece of land can lead to erosion, which might eventually lead to destruction of the farm crops (Akpan: 2004).

The Concept Of Risks

Various scholars, academic, professionals have defined risk in various ways. Hansel (1979) defines risk as chances of loss. Mordi (1987) defines risk as chances of miscalculation. Nwite (2008) defines risk as chances of event happening or not happening. Other scholars have also defined risk in various ways like chances of miscalculation, chances of an event happening. The probability of an event, uncertainty of an event etc. But one thing is basic and certain on the definition of risk. The uncertainty of an event, Franklin (1979) stated that the world is full of uncertainty, that event tax and death that is certain, the tax one pays depends on the profit made at the end of the year. Again, death is certain but nobody knows when he/she will die, the nature of death, the hour, minute and second he/she will die. Hence the world is surrounded with uncertainties Odo (2005) stated four types of risks which are; pure and speculative risk, particulars and fundamental risk. The author from the whole view classified six types of risks pure and speculative risks, particular and fundamental risk, dynamic and state risks.

Strategies For Managing Environmental Risks

There are different strategies of Environmental risk management. They are briefly highlighted as follows:

Risk avoidance

Risk avoidance simply means foregoing the activity associated with the risk, and opting for the activity considered to result to minimal adverse effect. It is a drastic and an extreme method of dealing with risk. It involves avoiding the event that could generate loss

(Okonkwo, 1998).

Risk reduction

The term risk reduction refers to decreasing the chance of loss producing event and the size of the associated losses. The philosophy behind maintenance culture, Road Safety Corps, Police Force, Security Men, Proper Planning, Environmental Sanitation etc (Nwite, 2005).

Risk retention

It refers to the situation where risk cannot be avoided such that the consequences of the risk are retained or assumed. Risk retention can be called risk assumption (Nwite, 2005).

Risk transfer

Risk transfer means shifting of the financial liability for loss, injury or damage to another person. In modern world, insurance companies are the professional risk bearers. It involves passing on the burden or risk to another person who undertakes to bear them in accordance with the terms of the agreement (Okonkwo, 2005).

Risk diversification

This has to do with diversifying into many activities with the aim of offsetting losses from any activity by a compensation gain from the other activities. This strategy of handling risk sums up the facts about "not putting your eggs in one basket (Nwite, 2005).

Risk combination

Risk combination involves two specific processes grouping of similar homogenous risks into exposure units, and predicting the combined chances of loss. Thus predictable loss is then shared proportionately by all the units in the combination (Chikeleze, 2005).

The Implications Of Effective Risk Management Of Nigerian Environment

1. It will induce peace of mind for good business decisions and venturing which translates into general economic growth and development of Nigeria.
2. It will enhance survival of individuals, private

businesses and government establishments.

3. It will make Nigerians to be conscious of managing environmental risks
4. It will help to reduce injury, sickness and death of employees at workplace
5. It will help to minimize economic waste in Nigeria.
6. Environmental pollution will drastically reduce in Nigeria
7. It will help maintain responsive and satisfactory social responsibility with society
8. It will boost agricultural productivity and other economic activities.

CONCLUSION

Based on the findings of this study, we conclude that environmental risk management is very vital in any nation especially in Nigeria today. This is because there is alarming increase in environmental hazards such as road accident, fire disasters, flooding etc.

However, there are various strategies for managing such environmental risk in Nigeria as identified in this study. Prominent among them is the risk transfer strategy. This involves shifting the financial burden of risk to the shoulders of another according to the contractual agreement. Thus, insurance is discovered to be the best option of risk transfer strategy and environmental risk management.

RECOMMENDATIONS

1. There is need for proper urban and rural planning to help control environmental hazards.
2. Government through NEMA should embark on aggressive public enlightenment campaign to sensitize Nigerians about the benefits of effective environmental risk management
3. Laws should be enacted to help preserve our environment and reduce environmental risks.
4. There is need for regular environmental survey to help reduce or prevent environmental risks and future forecasting in Nigeria.
5. Industrial areas should be located out-sketch of towns to prevent pollution
6. Nigerians should be risk management consciousness and embrace insurance as the best option for environmental risk management

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