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Multinational oil corporations and environmental challenges in the Nigerian oil industry

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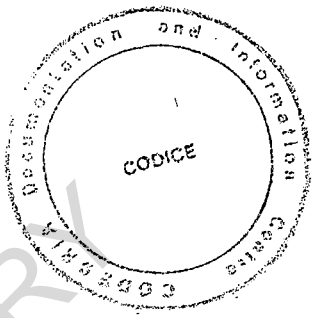
MULTINATIONAL OIL CORPORATIONS AND ENVIRONMENTAL CHALLENGES IN THE NIGERIAN OIL INDUSTRY



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Department of International Relations

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DEDICATION

To: The Daughters of Charity, Port Harcourt

The memory of Mrs Asanatu K. Onasoga

The memory of Miss Abimbola A. Soyinka.

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CERTIFICATION

We certify that this work was carried out by Onasoga, Oluwakemi Adenike in the Department of International Relations, Obafemi Awolowo University, Ile-Ife.

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Date 13/5/97

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Date 13/5/97

AUTHORIZATION

I, Onasoga, Oluwakemi Adenike hereby authorise the Hezekiah Oluwasanmi Library to copy my thesis in whole or in part in response to requests from individual researchers and organisations for purpose of private study or research.

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Date: 13/5/97

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LIST OF ABBREVIATIONS

CNL:	Chevron Nigeria Limited.
DPR:	Department of Petroleum Resources.
EIA:	Environmental Impact Assessment.
EPNL:	Elf Petroleum Nigeria Limited.
ESI:	Environmental Sensitivity Index.
FDI:	Foreign Direct Investment.
FEPA:	Federal Environmental Protection Agency.
FMWH:	Federal Ministry of Works and Housing.
LDCs:	Less Developed Countries.
MNCs:	Multinational Corporations.
MNOCs:	Multinational Oil Corporations.
MOSOP:	Movement for the Survival of the Ogoni People.
NEGAS:	National Environmental Guidelines and Standards for the Petroleum Industry.
NICs:	Newly Industrialising Countries.
NNPC:	Nigerian National Petroleum Corporation.
OMPADEC:	Oil Mineral Producing Areas Development Commission.
OPEC:	Organisation of Petroleum Exporting Countries.
SPDC:	Shell Petroleum Development Corporation.
UN:	United Nations
WECD:	World Commission on Environment and Development

ABSTRACT

The multinational oil corporations (MNOCs) are business entities who operate with the sole purpose of maximizing profits. This work assumes that in actualising this purpose, MNOCs operations have not been consistent with good oilfield practice and have therefore had dire consequences on the environment and people of the host communities in the Niger-Delta region of Nigeria. To this extent, the study examines the impact and consequences of MNOCs operations on the Niger-Delta environment, their efforts at preventing and controlling oil pollution and rehabilitating unavoidably polluted areas, as well as determining MNOCs level of compliance with international and national standards and guidelines on environmental protection.

Data for the work were collected during field trips to various oil producing areas, and during interviews with the oil producing communities and experts on MNOCs and environmental issues. These were supplemented with extracts from published and unpublished scholarly works. The data obtained were analysed using a descriptive and analytical method, while the concept of sustainable development was adopted as an appropriate framework of analysis.

The research reveals that in their operations in Nigeria, MNOCs have not always conformed with "good oilfield practices". This failure, it is discovered has dire consequences for both the environment and people of the host communities in the Niger Delta. It has led to deforestation, damaged landforms, and vast pollution and devastation of cultivable land. Also, wells, ponds, creeks and rivers have been polluted, aquatic lives negatively impacted on and in some cases there has been loss of fish, crustaceans and other aquatic animals.

These have significantly led to the pauperization of the host communities whose means of livelihood are negatively affected, thereby causing social upheavals in the Niger - Delta.

The study also reveals that in recent times, the MNOCs have made efforts to improve on their operations. However, such efforts have not been sufficient. This is attributed in part to: the Nigerian government's inability to control the oil multinationals due to the nation's excessive dependence on oil as major currency earner, as well as the nation's dependency on the same multinationals for crucial oil technology ; and inadequate and ineffective legislation especially in the oil industry. The state is seen to demonstrate lack of necessary willpower and commitment to environmental protection issues.

Subsequently, the findings indicate that there is need for a policy change, where ecological concerns are integrated into economic initiatives right from the formulation stage through to the implementation processes.

CHAPTER ONE

Introduction

> *We undertake to integrate environmental concerns into all existing and future economic and sectoral policies to ensure that they protect and improve the environmental and natural resource base on which the health and welfare of our people depend.*[1]

In contemporary times, the increasing use of natural resources especially petroleum and natural gas has become central to global economic progress. Therefore, the petroleum industry has generated a complex network of relationships that connects and concerns every country in the world.

In Nigeria, petroleum is the corner-stone of the national economy. This vital industry is the major basis for the generation of domestic revenue and foreign exchange which are indispensable to financing the country's developmental programmes. However, activities in this critical industry have led to degradation, stress and pollution of the environment "through the present ecologically non-sustainable activities of the petroleum companies[2]." Such pollution has rendered agricultural lands unfit for cultivation, polluted waters, rivers and creeks, destroyed aquatic lives and affected the health and economic life of the oil producing communities.

Unlike what obtains in most Organisation of Petroleum Exporting Countries (OPEC) where member states such as Venezuela, Libya and Algeria have effectively nationalised their oil industry through the indigenisation of oil technology, the Nigerian oil industry is still largely dominated by the multi-national oil corporations (MNOC) operating in the country. Even where the state has, in recent times, embarked on an aggressive state control of the oil industry through its policy of acquiring a majority equity

participation in the foreign oil companies, the MNOCs still remain the substantive operators of the various production arrangements and consequently, take more responsibility for the production of crude oil and other related activities in Nigeria.

It is against this backdrop that this study examines the activities of the MNOCs, and the impact of their actions on the environment in the host oil producing communities in Nigeria.

Statement of the Problem

The greatest environmental problems in the Nigerian oil industry are oil spillage and gas flaring. In view of the fact that oil and natural gas are non-renewable sources of energy, proper management, prevention and control of oil pollution is the best kind of environmental protection that would help ensure the conservation of Nigeria's exhaustive oil and gas reserves, and achieve the goal of sustainable development.

The impact of oil and gas pollution on the environment and subsequently on human lives varies, ranging from tolerable to devastating levels. The inhabitants of the oil producing areas bear the brunt of excessive and reckless exploitation of crude oil resources. It is not surprising therefore, that various communities in the oil producing areas protest and demonstrate, most times in a militant way to register their grievances. In August 1992, for instance, Igbide youths in Delta state demonstrated and disrupted Shell's operations for five days[3]. Similarly, the Ogonis in Rivers state have vented their anger on the oil companies several times, destroying their rigs and other service installations and further disrupting oil related activities on their lands[4].

On their own part, the MNOCs claim to support sound environmental protection practices as part of their social responsibility. The question that arises is - how

ecologically sustainable are such practices, especially in the Niger Delta area?

Moreover, since oil companies see pollution as a feature of oil industry, it is important to examine whether it is possible to prevent, and, or avoid despoliation of the environment and where such despoliation occurs, what attempts are being made for clean-ups and consequent restoration of the environment. On this score, the attitude of the MNOCs to environmental protection is very crucial.

In view of the above, the main research questions addressed are:

1. What are the consequences of crude oil exploration and exploitation on the environment in Nigeria?
2. What efforts have been made so far by the MNOCs to prevent and control environmental degradation, and to rehabilitate unavoidably polluted oil producing areas?
3. Have these efforts been adequate? If not what should be done?

The attitude and policies of the Nigerian state towards the preservation of the Nigerian environment also come into focus. We also examine the efforts the state and MNOCs have made towards ameliorating the hardships brought on the environment and people in the oil producing areas.

A few pertinent questions that similarly yearn for answers include: does the Nigerian state have an effective grip on MNOCs, such that they could be compelled to follow basic safety rules? Or, is it true to contend that some MNOCs lower their safety standards, and quality codes, when operating in the Third World? Does the Nigerian government connive with the MNOCs in this practice in a bid to attract and sustain foreign investment in the oil industry?

These and other questions will constitute the subject of investigation is this study.

Motivation and Objectives

By the end of the 1980's, global awareness had developed on environmental issues such that today, the world's concern for the environment is widespread, and has culminated into various international initiatives on how to ensure a more wholesome environment.

This research is motivated by the increasing concern for the Niger Delta environment in Nigeria vis-a-vis the activities of the MNOCs in the Nigerian oil industry, where it appears that adequate safeguards are not put in place for the protection of the environment, restoration of polluted environment, and rehabilitation of the various peoples adversely affected by oil pollution.

Consequently, there has been a wave of incessant protests by the oil producing communities who are agitating for the restoration of their polluted areas, compensation for such areas, and a fair share of oil revenue for the development of the areas.

Specifically, therefore, the objectives of this study include:

i. To examine the impact on the environment of oil production activities of the MNOCs who are operating in the Nigerian oil industry.

ii. To determine whether or not the operational modalities laid down by the Nigerian State for MNOCs in Nigeria are consistent with the environmental objectives of the state, and to what extent they are being adhered to by the oil multinationals.

iii. To make suggestions on how MNOCs activities in the Nigerian oil industry can be made more environmentally sustainable.

Scope of the Study

The activities of MNOCs (in the Nigerian oil industry) under examination is limited to crude oil exploration and production otherwise known as upstream operations. The rationale for this, lies in the fact that prior to 1990, these two major stages of oil exploitation were exclusively controlled by the MNOCs. Even with the subsequent inclusion of private national companies, the oil multinationals still dominate and control the production of crude oil in Nigeria.

Furthermore, the study is restricted to the companies operations in Rivers and Delta states. This decision is justified by the fact that the two states account for over 60% of total crude oil production in the country[5]. Consequently, the states have witnessed the most negative externalities of crude oil production.

The study focusses on three MNOCs whose operations are located within both Delta and Rivers states. Also significant is the fact that the companies all operate on onshore, nearshore and offshore locations. The companies are, Shell Petroleum Development Company Limited (SPDC), Chevron Nigeria Limited (CNL) and Elf Petroleum Nigeria Limited (EPNL)

Literature Review

Several studies have been conducted on the activities of MNOCs, not only in Nigeria, but especially in third world countries. Most of the studies focus on MNOCs as agents of growth. Such arguments can be traced to scholars that belong to the developmentalist school of thought. These scholars are developmentalists to the extent that they see MNOCs as vital ingredients for economic development in the Third world [6]. Where the role of MNOCs are dysfunctional or injurious to host community, they either

evade such issues or end up giving solutions and analyses that are theoretically untenable and defective in terms of policy.

On the other side of the fence are scholars who see the MNOCs as agents of western exploitation, imperialism and underdevelopment of Third World countries of Latin America, Asia and Africa. These scholars see MNOCs as agents of imperialism and place much of the blame for Third World underdevelopment on the multinationals. According to this school of thought, the MNCs are aided by the "petit bourgeoisie" who gain political office and material wealth as reward for their collaboration.[7] Their solutions to shedding the cloak of underdevelopment caused by Third World dependency on the western capitalist system are grounded in socialist principles.

However, both the developmentalist and radical works lack substantial treatment of the impacts of MNCs activities on the environment.

This neglect has been partly addressed by Eboe Hutchful who argued that, MNOCs operating in Nigeria have been irresponsible towards environmental questions and host community interests. Such "irresponsible" operational practices have led to the pollution of the terrestrial, atmospheric and marine environment of the Niger Delta, where the mangrove and sheltered salt marshes have exhibited the greatest sensitivity to long term danger from oil spill pollution[8].

Similarly, A.M.A. Imevbore and S.A. Adeyemi observed that MNOCs field activities and pipeline network are "sufficiently dense and ramifying" to the extent of affecting the water quality in the Niger Delta. Subsequently, they concluded that the current activities of MNOCs in the Nigerian oil industry have considerably polluted air, land and water of the producing areas[9].

Such considerable environmental polluting activities of SPDC, according to Daniel Omoweh have severely degraded the environment of its host communities[10]. The

company has done this through the indiscriminate dumping of effluent, spillage of crude oil and flaring of associated gas. Explaining further, he stressed that the company operates in a manner that cannot be allowed in Europe and U.S.A, and is not consistent with "good oil-field practice"[11]. Such differential practices, in Omoweh's view include the non pretreatment of effluent before being discharged into the environment, and refusal to re-inject associated gas. The reason for this attitude, he concluded, is because the state being primarily interested in the maximisation of revenue derivable from the oil industry colludes with SPDC, and does not effectively enforce its "statutory legislation on the environment"[12].

Statutory legislation, guidelines, standards and recommendations are policy tools that are used to prevent and control environmental degradation. Also, to effectively protect a nation's environment, a viable and comprehensive environmental policy must be evolved. Thus hazards imminent from various quarters can be foreseen, and preventive and control measures put in place to minimise such pollution.

Jerry Nwankwo and Dozie Irrechukwu revealed that such policies and statutory laws were non-existent for the first seventeen years of oil exploitation in the Nigerian oil industry. Even when such laws and an environmental policy were evoked, they were based on the advice of the MNOCs[13].

Noting also that Nigeria has been slow in developing an environmental policy, Ebele Ene asserted that such laws and policy have not effectively curbed ecological damages caused by oil exploitation activities of the MNOCs in Nigeria[14]. Such provisions, she maintained have been made ineffective and inadequate because, in the first place, various escape routes in the form of exceptions were included, and secondly, because there is a belief that a trade off exists "between the stringency of environmental standards and regulations, and the flow of capital arising from direct foreign investment in the oil

industry"[15].

As if to confirm that environmental policy, rules and standards have been ineffective in regulating MNOCs operation in the country, Hutchful observed that the absence of such effective statutory provisions have greatly exacerbated the pollution and degradation of the environment. He identified the predatory attitudes of the MNOCs, lack of data and infrastructural facilities, the regulatory agencies proximity to the oil industry, (The Department of Petroleum Resources (DPR) was for many years, a subsidiary of the state national oil corporation) and the conflict between "environmental protection and continued growth of the oil industry" as factors militating against the effective regulation of MNOCs operations by the DPR as the regulatory agency. 16

Lack of technology, adequate manpower, equipment and finances were identified by Taiwo Osipitan as factors responsible for the inability of DPR to effectively enforce environmental regulations[17]. Also is the non-precision and comprehensiveness of laws and regulations enacted for the regulation of operations in the oil industry. For instance, "practicable precautions", "modern and up-to-date equipment" and "good oil field practice" are all crucial phrases lacking precise and definite interpretations. Particularly disheartening is the fact that there has been no known prosecution of violating companies. Even in cases of glaring and gross violation, MNOCs bribe communal heads and officials of DPR to ensure non-enforcement of regulations[18].

Consequently, the oil companies, according to Saro-Wiwa, have taken advantage of the weaknesses of the Nigerian system to engage in operational practices that they cannot practice in America[19].

In contrast to the above views, Evans Aina recognized the state's efforts at regulating and enforcing environmental rules and policy[20]. He identified several environmental policies initiated by government, MNOCs and Federal Environmental

Protection Agency (FEPA) for the protection of the environment. These include: the initiation of Biennial Seminar series on the environment and the oil industry in 1979; the co-operative contingency plan of MNOCs through the establishment of Clean Nigeria Association (CNA), a co-operative oil spill clean up initiative of the MNOCs in Nigeria; and the establishment of FEPA by decree 58 of 1988, and the establishment of the National Guidelines and Standards for Pollution Control by FEPA[21].

However, the effectiveness of FEPA as an environmental protection agency since its establishment has been questioned. According to J.O.S. Ayomike for instance, FEPA like all government bodies is an agency that people tend to hear more about "in the news media than on the ground". 22

Multinational corporation characteristically control vast resources including human resources, finance, technologies and access to information. B.A. Osuno's position is that these resources can be used effectively at preventing and controlling oil pollution and other forms of environmental degradation in their areas of operation. He argued further that since MNOCs operations are global in outlook, and the Nigerian affiliates originate from the "mother countries" in the developed world, Osuno thus contended that MNOCs know, "what can be done to improve the environment within which they operate"[23].

MNOCs, according to Adeyemi Wilson "are aware of their responsibility to prevent and control oil spill"[24]. Taking an official stance on behalf of Mobil Producing Nigeria (MPN), he asserted that MPN actively support environmental protection practices and "places emphasis on prevention of pollution of the environment". Concrete efforts made to this effect are: the yearly review and activation of the company's oil spill contingency plan, procurement of oil spill response team, routine oil spill drills, preparation of ecological studies of company's area of operation, and participation in, and

funding of the activities of the Clean Nigeria Associates (CNA), a co-operative oil spill response initiative of eleven oil producing companies in Nigeria. Subsequently, he concluded, MPN's oil spill history has been good, where with reference to the industry's oil spill history from 1978 to 1986 for instance, MPN has only 1.1% of total spilled oil and will continue to be committed to a better environment[25].

However, Nwankwo and Dozie disagreed with the above view and maintained that MNOCs have little regard for their operating environment, adopting profit maximization production methods that place little or no investments on environmental protection. They stress that the pollution control technologies adopted by MNOCs in Nigeria have not always been the best available[26].

In exploring the motive basis of an oil company, what are the bases for the justification of its existence? In his assessment of the role of a corporate citizen, Ilevbare Jesei asserted that "a company exists, first and foremost, to make profit to satisfy its owners and to take care of its employees"[27]. Similarly, John Etu-Efeofor also noted that profit making is the main goal of a company no matter its size or sector of operation. Furthermore, it is the measure of the efficiency of a company and key to its progress[28]. He averred however, that while actualising the profit motive, MNOCs should endeavor to strike a reasonable balance with their "social responsibilities and obligations to protect the environment"[29].

To this extent, Ilevbare Jesei argued that while carrying out its primary business, a company must also be socially responsible by identifying with the needs, problems and aspirations of the people in its areas of operation, so as to engender the right atmosphere for business[30].

Corporate social responsibility towards the relevant community and environment is a sine qua non for the oil industry. This responsibility according to A.E. Ogbuigwe

arises because of these communities' proximity to oil production facilities, and subsequently they are affected by various hazards from the activities of the oil industry. Ogbuigwe recognized that the MNOCs operating in the Nigerian oil industry have realised that they owe their host communities socially, and thereby made several efforts such as the construction of roads, schools, scholarship awards and provision of borehole, hospital etc[31].

Such efforts however, have been seen as "drops of water in the ocean of the oil communities"[32]. Cyril Obi stressed this point by asserting that going by available evidence, such efforts do not benefit the people most directly affected. Also, he noted that MNOCs developmental efforts are inadequate and are mere tokens "of goodwill" that do not measure up to the developmental aspirations of the oil producing communities[33].

Similarly, Kayode Soremekun confirmed that MNOCs efforts at developing their host oil communities areas have been minimal. Using the Egbema community of Imo state and their experience as a basis for this confirmation, Soremekun revealed that during a period of 21 years of extensive oil production by SPDC in this area, the company's compensation to the indigenes of this area has been limited to "only 21 secondary school scholarships". The inadequacy of such efforts according to him is in contrast to MNOCs degree of social responsibility elsewhere in the world. SPDC efforts in Nigeria for instance, pale into insignificance when contrasted with the same company's developmental efforts in Portugal, Ethiopia, Italy and Thailand[34].

Odoliyi Lolomari also acknowledged that MNOCs operating in the Nigerian oil industry have made several infrastructural inputs to the oil producing areas. Such efforts however, and the issue of social responsibility have previously been controversial where MNOCs neglected, and refused to accept their social responsibility to the communities. Recent efforts have however failed to improve the lot of the beneficiaries who remain

poor and underdeveloped. Lolomari noted that this is so, because development is "not necessarily synonymous with the mere placement of structures on the ground"[35]. Constructively therefore, he advised that developmental efforts should encompass the development of the physical environment and human being himself, where communities are made to participate in developmental schemes and are able to develop the capacity needed to sustain such schemes[36].

A contrary view however is that MNOCs oil production activities in the Niger Delta have brought "significant transformation and development to oil producing areas"[37]. This position maintained by the state and the national oil company they further justified on the premise that MNOCs are not compelled to "carry out any form of community assistance" under any of Nigeria's statutes or laws, and as such should be commended for the much they have done[38]. This statutory neglect was also noted by Soremekun when he revealed that a diligent search through the various laws of the land shows that "there are no statutory provisions that seek to protect the interests and rights[39] of the oil producing communities.

Such a neglect according to Ogbuigwe is a manifestation of the non-premium placed on communities and environmental issues in Nigeria. He contended that the relegation of these issues to the background is in direct contrast to the importance attached to the duties of companies to their employees and the state. Consequently, he argued that on the whole, corporate social responsibility of MNOCs in the country is not clear and definite[40].

Such undefined statutory provisions on social responsibility of MNOCs to host communities and the environment have made efforts of MNOCs difficult to measure. Omobolanle Adewale asserted that MNOCs are aware of their responsibility to the communities, hence the provision of several community development projects. However,

the oil companies according to her, have reservations on the extent of such responsibility and believe that oil producing communities expectations from oil companies should be reasonable. Also, the companies are of the view that the development of the communities is primarily the statutory responsibility of the state[41].

Jesei Ilevbare noted that this contention is based on the conviction that, like other companies in other industries in Nigeria, they (MNOCs) dutifully discharge their responsibilities toward the state through the payment of royalties and taxes and consequently, the state should use such for the development of its communities while MNOCs "should not be expected to take over government's responsibilities"[42]. Social responsibility for the development of the oil producing areas must be taken by the state who is also a major shareholder in the MNOCs operating in Nigeria.

As noted earlier that the state's regulatory agency has not been able to regulate and enforce regulations in the oil industry for several reasons, so also the state has not been able to control MNOCs, and compel them to follow "good oil field practice". The inability of government to exert state control according to Augustine Ikein is as a result of government reliance on the MNOCs for oil production technology[43]. Also because there is "excessive emphasis on the economic significance of oil production"[44] in Nigeria the state's efforts at developing an indigenous capacity to produce oil has been overshadowed by the benefit accruing to the state through oil revenue. Consequently, oil companies and the state's relationship, he submitted have been termed "a complex mixture of cooperation, conflict and compromise"[45].

The monopoly of oil technology by the MNOCs and their status as the operators of the various oil production agreements between the companies and the state has been identified by Omoweh, as the factors responsible for the inability of the Nigerian state to have an effective grasp of oil production activities and subsequent control of the MNOCs and the oil industry[46].

Though recognising the strength and capability of the MNCs and the fact that their operations can have and have had unfortunate consequences for the social, economic and political development of the LDCs, Robert Gilpin noted that the major determinants of economic development lie within the LDCs themselves. More importantly, how LDCs can effectively control MNCs operations in their country depend on how disciplined and result oriented the LDCs are[47].

In conclusion, our literature review shows that MNOCs activities in Nigerian oil industry have greatly devastated host oil communities environment and caused great hardships for the people. Consequent upon the proximity of these communities to oil producing facilities, and the effect MNOCs operations have had on the people, MNOCs must, apart from concentrating on the maximization of profit, be strictly responsible for the development of their operating environment.

Also revealed is the fact that the Nigerian state for a considerable period lacked an environmental policy, while environmental laws and regulations, which evolved slowly, have also not been comprehensive or effective in controlling and regulating MNOCs operations in the oil industry. Indeed, the state has generally failed in its efforts at controlling MNOCs activities in the Nigerian oil industry, a failure attributed in part to the state's lack of political will, and ability to enforce its regulations.

In spite of the contributions of Eboe Hutchful, Daniel Omoweh, Imevbore and Dozie, and Adeyemi Wilson, who extensively explored the theme of the impacts of MNOCs oil production operations on the environment and people of the oil producing areas, the issues of MNOCs efforts at prevention and control of oil pollution, and the restoration of severely impacted environment remain inadequately addressed.

This work, therefore, examines the effect of MNOCs operations on the environment and people of the Niger Delta, and also assesses the efforts of the MNOCs at preventing and controlling oil pollution, and the restoration of despoiled environment.

Methodology

Data for this study are drawn from both primary and secondary sources. Primary data were collected through field trips and interviews. Field trips were made to some oil producing areas to facilitate personal observation, and evaluation of the impacts of oil exploration on the environment. Aside from on-the-spot assessments and interactions, interviews were conducted with several inhabitants of the oil producing communities, members of staff of : target MNOCs (Environment and Safety Department), Department of Petroleum Resources, NNPC, members of non - governmental organisations and experts on issues relating to the Nigerian economy, multinationals and the environment.

Documents dealing with specific international rules and regulations, statutory and provisions on oil prospecting and production were examined.

The secondary data were obtained from published scholarly works available in books, academic journals, seminar papers, periodicals and from government gazettes and official publications.

A descriptive analytical method was employed to establish possible correlation between oil exploration activities and environmental degradation in the oil producing area. This is with a view to establishing the extent to which MNOCs comply with international and national standards and guidelines on environmental protection in their activities and operations, and how well the oil multinationals have been able to prevent and control oil pollution as well as rehabilitate inevitably polluted and degraded areas during oil production processes. Also, the concept of sustainable development was employed as an appropriate framework of analysis in prescribing the need for the oil multinationals to be environmentally sensitive during oil production activities.

Working Assumption

The working assumption in this study is: MNOCs activities in the Nigerian oil industry have been environmentally unsustainable because; environmental responsibility is a heavy cost item that eats into the profits of MNOCs, of the inadequacy of domestic legislation regarding environmental protection, the state's excessive reliance on oil revenues, and lack of technical competence to monitor effectively the operation of the MNOCs operating in Nigeria.

Framework for Analysis

In this study, the concept of sustainable development is used as an appropriate framework for analysis. The concept emerged in the 1980's in response to global environmental problems. Excessive reliance on, and exploitation of environmental resources led to the adoption of the concept of "Sustainable Development" by the World Commission on Environment and Development (WCED) in 1987. Sustainable development as defined by the Commission is "development which meets the need of the present generation without compromising the ability of future generations to meet their own needs"[48].

The appropriateness of the concept for this research derives from the fact that it is a framework that advocates the need to integrate economics and ecology not just for the protection of the environment, but also to promote development. This is very relevant to the question of environmental degradation posed by the exploratory and exploitative activities of MNOCs. The fall-out of oil exploitation in Nigeria does not end at pollution

per se, but also of critical concern is the fate of the people and environment of the oil producing communities when oil, being an exhaustible and unrenewable resource, is depleted. While the present generation are witnesses to the diminishing of the resource, a degraded and depleted environment would be the heritage of the coming generations.

The concept is not without flaws, one of which has to do with its operationalisation. Several definitions of the concept, apart from that of the WCED have emerged. Some economists have interpreted it as implying the ability to maintain or possibly to increase, economic welfare for all persons over time. Others view it as a situation where the level of economic activity is maintained below the earth's capacity to regenerate resources and absorb waste[49]. For our purpose, the WCED definition is adequate. It emphasises on the fact that what is needed is a policy effort aimed at making developmental achievements last well into the future.

Another critical assessment of the concept has to do with the concern for the future and its inhabitants. Critics maintained that present generations cannot determine future generations need as "generational preferences" of the inhabitants of the future cannot be ascertained in the present[50]. This argument is linked to the view that future technologies might make present concern for the environment redundant, as the earth is believed to be a "self sustaining", "self correcting" system[51]. In other words, the future will look after itself.

Much as the above argument sounds logical, it should be noted that the sustainable development model seeks to ensure that the ability of future generations to choose, and fend for themselves is not seriously impaired by actions taken now. To that extent, the assumption that future generations would be able to choose as freely as the current generation, is not full-proof, and hence, not likely to be correct.

Consequently, the Nigerian state, MNOCs and the present inhabitants of the oil producing areas of Nigeria owe future generations the preservation of a healthy environment particularly in the Niger Delta. Therefore, the state and the oil companies in making economic decisions that maximize profit and generate revenue must always consider the effect that such decisions will have on the quality and state of the environment before and not after actions are taken.

Limitations

During the course of gathering data for this study, the researcher encountered the problem of accessibility to specific operational data categorised as classified documents. Also non existent were statistical data especially with regard to record on up - to - date oil spills incidences. Of note is the hostility, suspicion and subsequent lack of co - operation from MNOCs, they are of the conviction that independent researches (especially those on environment) are aimed at subjecting their shortcoming to the searchlight for public consumption.

Definition of Key Concepts

Multinational Corporations (MNCs): They are large enterprises that control assets (e.g. plants, mines, sales and other offices) in two or more countries, and are mostly responsible for global foreign direct investment. They are also called transnational Corporations (TNC) or International Corporations. Scholars have however tried to make distinctions between the three terms. Nonetheless, common to the three terms is the fact that they are all companies with plants or other direct investment in one or more foreign country(ies).

Multinational Oil Corporations (MNOCs): These are MNCs involved in the exploration and production of crude oil .The MNOCs otherwise known as the oil multinationals who produce and trade across national boundary lines, control roughly 85% of the world's supplies of crude oil outside the erstwhile communist countries.

Environment: The environment includes water, air, land and all plants and human being or animal living therein and the interrelationship which exist among them. Environment as used in this study also encompasses the physical entity and resources of the earth, supporting the existence of mankind.

Good Oil Field Practice: They are the minimum standard expected of operators in the oil industry irrespective of adequacy of states' legislation. Some of the mandatory practices include use of Blow - out - Preventer, Borrow and Saver Pits, Cathodic Protection of Pipelines, Periodic Testing and Replacement of Pipelines and Tanks.[52] (This standard should not be compromised for the sake of the environment and sustainable development.)

Pollution: Man made, or man-aided alteration of chemical, physical or biological quality of the environment to the extent that it has detrimental or deleterious effects on the environment as to endanger human health, harm living resources and ecosystems, and impair or interfere with amenities and other legitimate uses of the environment beyond acceptable limits.

The Nigerian Oil Industry: It encompasses the exploratory, production, terminal, refining, transportation, and marketing processes of crude oil and natural gas.

Onshore (land) Operations: Exploration and production operations on deserts, grasslands, forest, marshlands or riverine areas that extend up to about 5km from the

shoreline.

Nearshore (swamp) Operations: Operations on low level lands criss-crossed by creeks (including coastal areas within 5km from the shoreline).

Offshore Operations: Operations located in the high seas, beyond 5km from the shoreline.

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CHAPTER TWO

MNOCs AND NIGERIA'S OIL INDUSTRY

Introduction

In the last two decades, the role of MNCs and foreign direct investment (FDI) in global economic development, especially as it affects the Third World has generated great concern around the world, and has also featured prominently in the literature on international political economy. The period also saw the emergence of MNCs as important actors in the international system, thereby challenging the power-politics school which sees the state as the sole actors in the international system. For instance, Neil Jacoby noted that: "The multinational Corporation is among other things, a private "government", often richer in assets and more populous in stockholders and employees than are some of the nation-states"[1].

This chapter examines the dynamics of the activities of MNCs, the oil multinationals and the struggle for the control of the oil industry especially in OPEC member countries in general and in the Nigerian oil industry in particular.

MNCs in the World Economy

In some respects, it is possible to contend that the size of the MNCs and the vast resources they control pose a threat to the political sovereignty of states.

The expansion and success of the MNCs are closely linked to international capitalist development of the post-war era during which the accumulation of capital in Europe made it necessary to invest abroad. The MNCs became the vehicle for the

transnationalisation of capital and production. The corporation thereby became the main source of global FDI through which they integrated and subsequently, dominated the world economy.

Contemporary MNCs activities have been traced to the Belgian firm - Cockrill with its first foreign production subsidiary in Prussia. MNCs antecedents in Africa go back to the activities of old colonial mercantile houses such as the Royal Niger Company, Lever Brothers and United Africa Company (UAC)[2].

Traditionally, the motives of MNCs involvement in foreign direct investment have been analysed by scholars like Lenin and Hobson. They contend that such motives revolve around the need for expansion due to dwindling profit from over concentrated home markets[3]. Other reasons for MNCs investment abroad are:

* To jump tariff and import barrier and regulations.
* To obtain or use local raw materials.
* To participate in a rapid expansion of market abroad.

On a different note, Bade Onimode argued that apart from the need to expand and to gain access into protected markets, multinationals invest abroad in order to control sources of raw materials like oil, copper, rubber, etc. Also, they seek to exploit cheap labour in low income countries as well as to minimise operational risks through geographical spread. The overall aim of these is to maximise profit[5].

With the emergence of United States of America as the strongest capitalist country at the end of the second world war, her firms massively invested abroad. By 1981, American FDI constituted more than two-fifths of total global FDI[6]. From its post World War II peak, American MNCs have increasingly been challenged by their counterparts from Europe, Japan and the Newly Industrialising countries (NICs). Unilever, Royal-Dutch Shell, Dunlop Pirelli, Mitsubishi and British Petroleum (BP) are

examples of global largest MNCs whose home countries are based outside the United States[7].

However, the United States has continued to be the largest home country and surprisingly the largest host country. More surprising is the fact that about two-thirds of MNCs investment is made within the Industrialised countries. The above facts are surprising because the clash between MNCs and host countries has been most intense in the Third world.

As noted previously in the literature review, arguments on roles of MNCs in the Third world fall into two categories: MNCs as agents of growth; and as agents of underdevelopment. The former being the view of scholars that belong to the developmentalist school of thought. They maintained that MNCs contribute vital resources such as capital, technology, managerial and marketing skills, that are generally not available or sufficient in LDCs, create jobs and contribute to the developmental efforts of host states through import substitution and efficient use of resources and "above all contributing to global efficiency".

However, critics contended that MNCs mostly raise capital from the local economy and subsequently transfer such capital resources to their headquarters through such devices as transfer pricing, over pricing, over invoicing of imports and under invoicing of exports. Similarly, technologies when rarely transferred are obsolete, overrated and mostly capital intensive and inappropriate, where the economies of most developing countries are labour intensive[8].

The multinationals through their creation of jobs and training of specialists for greater managerial efficiency have also contributed to the "widening of the elite-mass gap and polarisation of social forces in the host states"[9]. This they do because MNCs generally pay their employees higher wages and provide more fringe benefits than domestic firms.

Also of note is the fact that Third World countries marketing problem is caused by the MNCs control of international markets, through which they make huge profits compared to what the Third World countries realise on their exports[10].

Activities of the MNCs instead of aiding the developmental efforts of host states have been known to slow down the industrialisation of the Third world countries. MNCs, especially those in the extractive industry apart from creating enclave economies which seldomly have backward and forward linkages with their host state economies use their resources "efficiently" to encourage inappropriate consumption patterns through such devices like marketing, advertising and product differentiation techniques. Most importantly, indigenous technological development hardly survives MNCs technological onslaught nor is there a conducive atmosphere for such to develop."

Another important charge against the MNCs is interference in the political affairs of host states. Joan Spero noted that MNCs can influence politics in host countries in several ways:

> *It might overthrow an unfriendly government or keep a friendly regime in power. It might intervene in elections through legal or illegal campaign contributions or take action to support or oppose particular public policies*[12].

A viable example of an extreme interference in the politics of a host state is the collaboration of International Telephone and Telegraph Company (ITT) with the CIA to topple the government of Allende in Chile. This was at a time when the Chilean government policies became too revolutionary for the conduct of its (ITT) operation.

Perhaps the most controversial charge against the MNCs is that they are beyond national control. Most of these corporations are extremely powerful and form enclaves within host states, they possess vast resources far in excess of most of these host states[13]. MNCs are also known to undermine territorial nation-states in situations when they act as

instruments of the foreign policies of their home states. Albeit, there are situations when MNCs policies are in conflict with those of their home states[14]

Various measures have been taken to tackle the problem of controlling the MNCs. One of such measures is the proposal by the United Nations (UN) to work out a code of conduct for MNCs. The code seeks to regulate and control the activities of MNCs as well as lay down rules on foreign investment and corporate behaviour for MNCs. However, there is no consensus on the nature of the code. While the developed countries want "a package of trade off", and the MNCs wants the standards to be voluntary and morally binding, the developing countries want the code of conduct legally binding and applicable only to private foreign corporations[15].

Other probable obstacle to the successful implementation of the code of conduct are: the United Nations lack of acceptable and effective machinery that would be used to adjudicate disputes arising from conflicting interpretation of the code as well as the lack of enforcement machinery for it (the code)[16].

However, on their own part, developing countries have adopted various measures aimed at controlling the activities of MNCs. One of such measures is the indigenenisation programme. Indigenisation is meant to help state and local capitalists in host states obtain or increase their control of significant economic enterprises, thereby eliminating economic dependence. Thomas Biersteker, using the Nigerian indigenisation exercises of 1972 and 1977, noted that the exercise did not lessen dependence nor did they lessen MNCs control of the Nigerian economy[17]. Government policies since have fluctuated between tighter control and in more recent time, a completely relaxed business code that permits MNCs to have 100% equity share in almost all sectors of the Nigerian economy.

Joint ventures, acquisition of majority interests in the equity assets of the MNCs' local subsidiaries and sometimes outright expropriation or nationalisation, are other

means used by states to control operations of MNCs. However, these measures have been found to be largely unsuccessful in curtailing the excesses of MNCs, especially where MNOCs have been known to use such measures to their advantage[18].

Nigeria has taken various measures to control and curtail MNCs activities in the country. Such measures are more pronounced in the oil industry, as if to underscore the critical and strategic significance of that sector to the national economy. How well has the state been able to achieve its objectives of wrestling control of the oil industry from the grasp of the MNOCs? Also what are the dynamics inherent in the jostle for the control of oil and the Nigerian economy? It is this theme that we explore in the next section.

Politics of Oil Exploitation

Historical antecedent of the international oil industry dates back to the 19th century when in 1859, Colonel Drake drilled the first oil well in Pennsylvania in the United States. After this initial success, several oil wells were drilled in America and, with an expanded output, the United States became an oil exporter. At about the same period, a large oil deposits were discovered in Russia and subsequently Russian oil was exported[19]. The discovery of oil in the other parts of the world such as in the Middle East, Africa, Asia and Latin America internationalised the oil industry.

Early activities in the oil industry were mainly dictated and patterned by the Standard Oil Company, a company founded by John Rockefeller in 1882. Rockefeller realising that a situation where supply outweighs demand as occasioned by the activities of various small wildcatters was inimical to the growth of a viable oil industry, took various measures to curtail the surplus of oil. Also, he expanded the company's activities into all the states of the U.S and effectively took control of the oil industry through the

Standard Oil Trust.

By 1910, the Standard Oil Company was in firm control of the U.S oil industry, dominating and dictating the supply pattern of the commodity and incurring the wrath of the U.S government who enacted the Anti-Trust Law. Consequently, the Standard Oil Trust was dissolved with the subsidiary companies operating as independent companies[20]. Three of these subsidiary companies namely Standard Oil of California (SOCAL), Exxon and Mobil constitute part of the major international oil companies and along side Royal Dutch Shell, British Petroleum (B.P), Gulf-Chevron and Texaco form the "seven sisters."

The international oil industry is an oligopolistic industry where the above seven majors and a handful of other oil companies hold sway. Their dominance and control of the international oil industry can be traced to several factors which include:

1. Their monopoly of oil technology, knowledge and skills which gave them an unparalleled advantage in perpetuating their managerial control of the oil industry.
2. Their supply of necessary finance capital for exploration and development of wells to a degree that cannot be easily met.
3. Their traditional management of transportation and marketing activities between exporters and importers of crude oil[21].

It has been contended that these factors are myths "used to deter the governments of developing countries from entering the oil industry". Nonetheless, these factors help in enhancing oil multinationals' firm control of all facets of operations in the international oil industry and effectively defined and limited the host oil producing states policy decisions on production and pricing of oil. This led to conflictual relations between the MNOCs and host oil producing countries especially in the Third World.

But a dramatic change occurred with the formation of the Organisation of Petroleum Exporting Countries (OPEC) in 1960. The organisation's member countries

sought the control over production, pricing and profit sharing activities in their individual countries' oil industry. To this extent, various consultations and negotiations took place between OPEC member countries and the MNOCs with the latter having to concede to the governments of the OPEC member countries the right to determine "output level as well as prices used in the calculation of income taxes and profit shares"[22].

OPEC fortunes completely changed starting from 1970 when Libya under Muammar al. Gadaffi unilaterally increased the prices of Libyan oil exports. By 1973, the producing countries had taken advantage of the energy crisis occasioned by "renewed outbreak of hostilities between Israel and the Arab states" to exercise control over the world oil market[23]. The aftermath was a quantum jump in crude oil prices in 1973 and 1974, and the subsequent change in the power configuration, in which oil exporting nations could regulate crude oil prices and output with the objective of maximising member countries revenues. Consequently, the "posted price" per barrel of crude oil is determined at regular intervals at the ministerial level meetings of the organisation.

However, the control and strength that OPEC effectively wielded in the 1970's have been tempered with by several factors. The first has to do with the political and economic maneouvres and intrigues of the MNOCs. By the beginning of the 1980s, the oil majors gradually reduced oil prospecting activities in the Middle East and Africa, and shifted more operations to Alaska, Canada, the North Sea and the Amazon Basin[24]. Also, the majors actively encouraged the development of alternative sources of energy and technology in the Western world, and sought to dominate and monopolise such sources. For instance, the five U.S majors control 50% of the atomic energy industry in the United States. Similarly, the oil multinational having lost their controlling powers in the crude oil production and pricing sector, consolidated their powers and control over the distribution and marketing sector of the industry[25].

Secondly, OPEC's effectiveness as an international regulatory organisation for the oil industry has been seriously impaired by the activities of four non-OPEC, oil producing countries namely Mexico, the United Kingdom, Norway and erstwhile Soviet Union. These four countries have exercised significant impact and influence on world oil market and especially on OPEC output and pricing policies. For instance, the United Kingdom which ranks as fifth largest producer of oil in the world and the largest exporter of light, low sulphur crude oil[26] effectively undermined OPEC's pricing control in 1983, when it unilaterally introduced a 10% price cut of the crude brand. Subsequently, fellow producers of comparable crude oil, like Norway and Nigeria were forced to cut the price of the crude brand irrespective of OPEC's pricing policies.

Another factors that has proved to be undermining OPEC's effective control of the international oil market, is member countries efforts at protecting individual national interest and subsequent flouting of OPEC's quota. For instance, in mid-1985, Ecuador openly flouted its OPEC quota of 185,000 barrels per day by producing 280,000 barrels per day[27]. The urge to protect individual country's national interest, has made OPEC member states reluctant to entrust the organisation with supranational powers which would enable it implement its price-stabilisation policy, police compliance and, sanction defaulters.

Inspite of these problems, OPEC has successfully weakened the MNOCs control over salient aspect of the oil industry, turned the international oil market from a buyers market to a seller's market, and above all, emerged as a powerful force to be reckon with in the international oil industry.

How well has Nigeria, as an individual OPEC member country fared in its quest for the control of the oil industry?

Nigeria joined OPEC in 1971, and in compliance with OPEC resolution No. XVI 90 of 1968 requiring member states to have acquired 51 percent of the equity interests of foreign oil companies in their countries by 1982 and engage actively in all phases of petroleum development and control, Nigeria established the Nigerian National Oil Corporation (NNOC) by the Decree No. 18 of 1971. The decree vested the ownership and control of petroleum in the state, while the NNOC was to be the vehicle through "which the government participates in all phases of petroleum development with specific agreements regarding profit sharing and conditions for royalty collection"[28]. By 1974, the Corporation had succeeded in getting 55 percent equity participation in all the foreign oil companies shares and was increased to 60 percent by 1979, during which time the NNOC had been replaced under the Decree 33 of 1977 by the Nigerian National Petroleum Corporation (NNPC).

The government, apart from having majority participation through the NNPC, also announced that:

> *no additional concession would be granted henceforth to foreign oil firms and that all areas not covered by existing oil mining leases or oil prospecting leases have been vested in NNPC, and all concessions area surrendered are also vested in NNPC*[29].

The above policy ensured that the ownership and control of all concessions in the country were in the hands of NNPC, while MNOCs interested in any concessional area have to obtain such through various participation agreements with NNPC. The agreements are: the joint venture arrangement; production sharing contract and service contract.

The joint venture arrangement is mostly favoured. This allows the government, through NNPC, to enter into a agreement with an MNOC for joint development of jointly held oil prospecting licenses (OPLs) or oil mining leases (OMLs) and facilities, sharing the benefit or losses of the operations in accordance with its proportionate interest in the venture.

In a production sharing agreement, the NNPC engages an MNOC to carry out petroleum operations on NNPC's wholly held acreage (OPLs). The contractor, i.e., the MNOC, bears the exploration costs and risks alone and can only recover such if and when oil is discovered in commercial quantity.

The service contract is very similar to the production sharing contract but differs in scope and duration. The contractor, under this agreement is entitled to be repaid his investment "plus an agreed mark-up in crude if and when oil" is discovered and produced in commercial quantity. Table 1 shows the distribution of government participating interests in the MNOCs operating in Nigeria.

A common feature of all the participation arrangements discussed above is the fact that the MNOCs are given the legal title of operator of the various operational contracts. Hence, the MNOCs have operated the joint venture, and the transfer of oil production technology has been elusive to the state national oil company (NNPC). The state therefore has not been able to develop :

> *The capacity to manage its petroleum resources by itself; all the crude oil is produced by foreign operators. Even though some Nigerians who work in the industry occupy important management positions, the key management roles are performed largely by foreigners.*[31]

The joint venture contract is supposed to accelerate the indigenisation of oil technology in the country. However, over two decades of joint venture arrangements between NNPC and the various MNOCs have not achieved this. The Nigerian state's lack of political will in acquiring oil technology is best appreciated juxtaposed with the experience of a fellow African OPEC member country - Algeria.

Table 1: Government Participation Interests In MNOCs

Company	Participation %	Date Acquired
Elf (EPNL)	35	1-4-71
	55	1-4-74
	60	1-7-79
AGIP/PHILLIPS	33½	1-4-71
	55	1-4-74
	60	1-7-79
SHELL-BP	35	1-4-73
"	55	1-4-74
"	60	1-7-79
SHELL (SPDC)	80	1-8-79
"	60	1989
GULF (CNL)	35	1-4-73
"	55	1-4-74
"	60	1-7-79
MOBIL	35	1-4-73
"	55	1-4-74
"	60	1-7-79
TEXACO	55	1-5-75
"	60	1-7-79
PAN OCEAN	55	1-1-78
"	60	1-1-79
ASHLAND	Production sharing	1973
ESSO	Production sharing	1991
STATOIL - BP	Production sharing	1991
AGIP AFRICA	Service contract	1979
ELF AQUITAINE	Service contract	1979

Source: NNPC -NAPIMS Joint Venture Departments.

In 1963, the Algerian government established the state oil corporation - SONATRACH, to manage and control the Algerian oil industry. By 1966, SONATRACH had signed joint venture agreements with various MNOCs operating in Algeria. By 1974, eight years after the signing of the contracts, SONATRACH had successfully indigenised oil technology and acquired the capacity to refine. Today, Algeria's SONATRACH has evolved into a viable national oil company, completely managing all aspects of the Algerian oil industry[32].

But the reverse is the case in Nigeria. Even with the insistence clause, one of the measures put in place to ensure that the state oil company acquire necessary operating technology, effective control of the oil industry still eludes the Nigerian state. The insistence clause requires "foreign operators, upon termination of the contract, to transfer to the host government, free of charge, all the petroleum installations and equipment, in good working condition"[33]. Till date, no MNOC had been compelled to comply with the above injunction by the Nigerian state. Instead, at the expiration of each contract, application for renewal are filled and granted. Consequently, the NNPC continues to be dependent on the oil multinationals to operate the various operational contract, willingly serving as "an instrument for capital accumulation by those who manage the state"[34].

The state's inability to effectively regulate MNOCs operations in the country results mainly from its (state) reluctance to regulate activities in the oil industry, an industry recognised as the goose that lays the golden eggs for the Nigerian economy. What therefore has been the impact of the MNOCs and subsequently, the oil industry on the Nigerian economy?

In examining the impact of MNOCs activities on the Nigerian economy, it is pertinent to note that the country's economy is heavily lopsided, depending greatly on the petroleum sector which is in turn overwhelmingly dominated by private foreign

investment, i.e., MNOCs. They are massively involved in the production of crude oil for export as well as for domestic use.

However, this over-dependence on oil alone was not always the case. Prior to 1973, agriculture was central in generating revenue and capital for the development of the Nigerian economy. As an agrarian economy, over 70 per cent of the people were involved in agriculture and related fields. Another non-oil sector that contributed to the Nigerian economy was the mining sector[35].

By 1960, when Nigeria gained independence, the agricultural sector's contribution to the gross domestic product was about 60%. There has, however, been a rapid decline in the role of agriculture as the net contributor of capital and generator of foreign exchange to the economy. "Oil now accounts for about 93% of Nigerian export earnings, 75% of foreign exchange earnings, 87% of total government revenues and 45% of the gross national product"[36].

The emergence and ascendance of the oil industry in the Nigerian economy can be traced to 1908, when a German company called the Nigeria Bitumen corporation drilled 14 wells in the present day Lagos state and ceased operations with the outbreak of world war I. In 1938, Shell-D'Arcy exploration group, a consortium jointly owned by Royal Dutch. Shell and B.P received an oil exploration license and immediately revived exploration operations in the country . Again, all operations were suspended in 1941 with the outbreak of the second world war[37].

Operations resumed in 1946 and in 1957, the first wildcat or exploration well was drilled dry. Between 1957 and 1959, 47 wildcat wells were drilled, 15 of which struck oil in producible quantities. The company also undertook test runs for appraisal wells "to ascertain whether sufficient oil formations were available to warrant production on commercial scale"[38].

The first commercial discovery was made in 1956 at Oloibiri in the present Rivers state. On the whole, twenty three such wells were drilled, and thirteen turned out to be 'wet'. This result brightened the prospects for vigorous drilling of more wells; ushered in other MNOCs; and catapulted Nigeria into the rank of the international oil producers.

Basically, most of the seven international oil giants have at one time or the other been actively engaged in oil exploitation in Nigeria. The first new comer to join Shell-BP in the search for oil was Mobil Exploration Nigeria Limited, an affiliate of American Socony - Mobil Oil Company. Concessions were also given to Gulf from the U.S in 1961, Agip from Italy in 1962, Satrap (now Elf) from France in 1965 and Phillips and Esso from the U.S. in 1965. Additional concessions were granted in 1970 the Deminex of West Germany, Occidental from the U.S., Japan Petroleum Company, Mnosanto of Italy and Exxon from the U.S.

Currently SPDC produces the bulk of Nigeria's crude oil, about 887,000 barrels of oil per day. SPDC has its parent company, Shell International Producing Corporation (SIPC) in the Hague. CNL is currently the second largest company, producing about 380,000 barrels of oil per day. It has its home country in the United States of America. EPNL, with its parent company, Elf Aquitane located in France produces about 100,000 barrels of crude oil per day[39].

The strategic position MNOCs occupy in the Nigerian economy is best appreciated when viewed against the background of Nigerian's sparse technical know-how, and the massive finance capital required for oil exploitation and marketing. These coupled with the fact that foreign private investment provided by the MNOCs have been instrumental in the development of the petroleum industry, has made activities in that sector synonymous with MNOCs activities.

Some of the contributions of MNOCs and the petroleum industry to the Nigerian economy include revenue generation and foreign exchange earnings. Today, the oil industry is central in generating capital for the development of the Nigerian economy, and it accounts for more than three quarters of total Federal Government revenue.

The oil industry is also the largest source of foreign exchange earnings for the Nigerian economy. In the late 1970's oil exports engendered balance of payments surpluses which dramatically strengthened Nigeria's external reserve position. Much as Nigeria's balance of payments is no longer surplus, nonetheless, oil exports still account for more than 90% of total exports earnings. To this extent in 1992 for instance, total values of exports was U.S $11,886 million where values of petroleum exports was U.S. $11,690 million. Similarly in 1993,the value of exports was U.S. $11,139 million where the value of petroleum exports was U.S. $11,024 million[40].

Oil revenue has been used to develop the non-oil sectors, especially the agricultural sector, fund the country's development plans, and finance several public investment programmes such as the Kainji Dam, airports, steel plants, highways, flyovers and sky scrappers[41].

Other effects of MNOCs investments on the Nigerian economy include, the creation of jobs and increase in personal income of their employees. In the realm of manpower development, the MNOCs provide on the job training, special internal courses and, SPDC specifically provides in-house training programmes at the Shell company Training School at Port Harcourt[42].

However, the prominence of the oil industry has posed several economic, social, political and environmental problems. The first of these problems revolve round the shift from the agricultural sector to the oil sector, leading to the heavy dependence on oil revenue to the neglect of the agricultural sector. Thus, the Nigerian economy has become

heavily dependent on a single source of revenue. This undoubtedly exposes the economy to the vagaries of a highly volatile international oil market. This was especially evidenced in the late 1980's with the fortune of the country fluctuating with that of the petroleum sector in the world oil markets, and Nigeria had to go to the Eurodollar market to borrow more capital to supplement the decrease oil revenue targeted for the funding of the country's development plans. This is in contrast to the pre-1970 scenario, when the country derived the bulk of foreign exchange earnings, government revenue and investment funds from several agricultural commodities like cocoa, cotton, palm produce and groundnut[43].

The oil multinationals activities have greatly impeded the indigenisation of oil technology in the Nigerian oil industry. The oil industry apart from being capital intensive is also reliant on imported technology. MNOCs are supposed to facilitate the transfer of necessary technology to the Nigerian oil industry at the expiration of their joint venture contracts with NNPC. To this extent, the Nigerian Petroleum Development Company (NPDC) was established as a subsidiary of NNPC in 1988. It was empowered to commercially produce and market petroleum products, but more importantly, to take over oil operations from the MNOCs upon termination of their contracts[44]. Till date, there has been no take over from the MNOCs and neither has oil technology been indigenised.

Characteristically, MNOCs creation of jobs is confined to the employment of a "small, elite, semi skilled and highly skilled labour force"[45] whose income and conditions of service are higher than that of the domestic labour class. Thereby disparity in the distribution of personal incomes is sharpened and subsequently, there is a widening of the elite-mass gap. This has orchestrated two problems in Nigeria - unemployment and inflation. The petroleum industry being capital and equipment intensive does not generate enough employment opportunities. This is best illustrated when it is noted that by 1981,

SPDC which accounts for over 59% of Nigeria's crude oil production had only 4,732 employees[46].

Also, the high personal income in the oil industry and related fields lead to high income elasticity of demand for food among the workers in the oil sector. This, coupled with the relative stagnation of the food sub-sector due to limited food production under peasant use of negligible amount of modern inputs, has led to serious food deficits. With food production failing to keep pace with rising demand, food prices have been sharply increasing.

MNOCs operations in Nigeria have also had negative impacts on the economy of their immediate host communities. One of these negative impacts is the sharply rising cost of living in these oil producing areas. This is caused by the inflation transmitted first, from the urban areas, second, by the sharply rising land prices resulting from scarcity of land caused by MNOCs acquisition of vast expanse of land for various oil production facilities, and third, by the companies' staff high standards of living.

The most celebrated negative externality of MNOCs operations, especially on the oil producing communities is oil pollution and environmental degradation. In a study on the effect of oil pollution on agriculture in Rivers state, it has been shown that oil pollution leads to:

1. Increased carbon/nitrogen ratio which reduces soil fertility.
2. A decline in the size of cultivable land from an area of 1.3 hectares before pollution to 0.9 hectare after pollution.
3. A 20% decline in food production.
4. A 48% decline in the average per capital income of palm oil producers[47].

The magnitude of the effects listed above is best appreciated when noted that, apart from fishing, agriculture is the most important vocation in the oil producing areas. The situation

is worsened by the fact that even fishing activities are negatively affected by oil pollution.

These various indices of environmental degradation will be examined in the next chapter.

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CHAPTER THREE

IMPACTS OF OIL PRODUCTION ON THE NIGERIAN ENVIRONMENT

Introduction

In the preceding chapter, it was noted that one major spill-over of MNOCs operation in Nigeria is oil pollution which leads to vast environmental degradation in the oil producing communities. In describing and analysing the environmental impacts of MNOCs operations in Nigeria, we will first determine the sources and level of hydrocarbon pollution, and then the effect on the environment of the Niger-Delta where the bulk of Nigeria's crude oil is produced.

There are various stages of oil production. These include: exploration, production and terminal operations[1]. At each stage of these operations, solid, liquid and gaseous wastes are produced and discharged, leading to noise, air, water and soil pollution.

Exploration Operations

The exploration stage consists of surveys and exploratory drilling. Surveys are made to "determine the (subsurface) structure and to estimate the potential for oil and gas accumulation[2]. There are various types of surveys namely, seismic, gravimetric and magnetic. In Nigeria, seismic survey is widely used by the oil multinationals, and it involves the use of explosives. These explosives when detonated send artificially generated vibration down into the ground. The vibration is then picked up by highly sensitive detectors which produce the necessary data that would help determine if the area is suitable for oil and gas accumulation[3].

The environmental menace associated with seismic operations include transient noise resulting from earth-moving heavy equipment deployed to survey sites, and acute noise pollution during the use of explosives.

Level of pollution vary from one terrain to the other. In off-shore operations, level of pollution is low and mostly uncertain. In nearshore and swamp operations, it is low on human lives but rather disastrous for aquatic existence. Fishermen initially could not understand why areas noted to be fertile fishing areas, suddenly become barren until such incidences started to manifest with increased oil-drilling operations around such areas. Subsequently, it was established that the detonation of explosives cum seismic operations lead to vibration, disturbance and shattering noise that scare fish away from their natural habitats, and consequent to fish migration into the deep seas[4].

In land operations, it is a different scenario, depending on how far a seismic site is to a community. Where seismic sites are near human habitats, the impact of the vibration caused by detonated explosive is most visible on buildings and physical structures. In Obagi village for instance, nine out of every ten buildings have cracked walls, which the villagers maintain resulted from vibrations during seismic operations and gas flaring around their town.

The state's efforts at controlling the use of explosives during seismic operations revolve around the Petroleum Act 1969 (in the Petroleum Drilling and Production Regulation 1969, section 25 and 36), Explosives Act 1964, and Explosives Regulation 1967. However, an appraisal of these legislations show that they are not essentially for the purpose of environmental protection, but for tackling safety problems associated with the use of explosives, where the workforce in the oil industry is the primary beneficiary.

When seismic data show that an area has the necessary subsurface structure where there can be oil or gas accumulation "wells are drilled to determine the nature and extent

of ... hydrocarbon reservoirs"[5]. These are called exploration wells. Exploration drilling involves the use of an exploration rig which uses rotary equipment to bore a hole into the subsurface, and the use of drilling mud which helps transmit to the surface, information on downhole conditions.

Environmental degradation associated with exploration drilling include, disruption of farming activities, damages to landform, creation of shallow wells, chemical pollution and waste generation.

Operations on land disrupt farming activities and damage landforms, even destroying farmlands during land clearing for, movement of crew and equipment, and site for drilling operations. In offshore operations, facilities for supporting a work crew are always provided on a rig. These crew over a period of time generate solid wastes which are mostly thrown overboard in offshore and nearshore locations, while such waste are left in waste pits on land locations.

Drilling fluids, drilling muds and drill cuttings when removed from wells are chemical pollutants which, as a result of their hazardous content are regulated by the Department of Petroleum Resources (DPR) which stipulates that they must not be discharged directly or indirectly into:

i. Any tidal waters (fresh, brackish [tidal or non-tidal] or reservoir).

ii. Swamp, coastal or nearshore waters.

iii. Any pit on land/swamp other than temporary holding retention pit(s) so designed and utilised that there shall be no overflow, leakage or seepage[6].

It is important to note however, that in nearly all land locations, every well site has a retention or containment pit. These pits have become permanent fixtures in the Nigerian oil industry where some wells drilled over twenty years ago still retain their "temporary" retention or containment pits. Most of the pits overflow during rainy season, leading to

contamination of ground water, while vegetation and soil are coated with drill wastes. Also, the pits have become death traps for livestock where such are located near drilling areas.

Oil spillage from well blow - out is one of the most visible environmental hazard that occur during exploration drilling. Well blow - outs are much more serious and devastating than any other source of oil spillage. Instances of when they occur, show that there is vast destruction and devastation of land, water, rivers, property and the general environment. Casualty rate of human loss is also normally high.

Level of pollution during well blow-out in offshore, nearshore and land locations is normally very high. An example of a well blow-out incidence in Nigeria was the Funiwa 5 well blow-out of January 1980 in Rivers state. The blow-out led to the spillage of 421,000 barrels of crude oil, resulting into the pollution of 3,119 square kilometres of coastline, mangrove swamps, rivers and creeks and subsequently "causing extensive damage to the ecology, fishing and water resources"[7]. The estimated period of natural recovery for the impacted mangrove areas was 81 years due to the extensive damage to the ecosystem whereas the average natural recovery period for an impacted areas is 25 years[8].

Production Operations

It is at the production stage that the number and level of pollutants are very high and occur incessantly, with great impact on human lives and the environment. Production wells are drilled after results from exploratory wells have established that favourable conditions exist for the production of crude oil or gas in commercial quantity.

Development of a field for crude oil production involves large scale forest clearing to facilitate the movement of heavy equipment, creation of access roads and most significantly, the creation of the pipeline-right-of-way (PRW). Such clearings result into

more extensive damage of the already exploratory-induced damaged landforms, deforestation and subsequent erosion. Level of degradation is high and mostly felt in Rivers and Delta states where the bulk of Nigeria's crude oil is produced.

Pollutants derived from development drilling are the same as those generated during exploratory drilling. However, there is much more use of chemicals particularly drilling muds and acids, and the level of pollution is greater because development drilling involves the drilling of several wells. These are drilled from a fixed platform for the development and production of a field.

Flowlines are major sources of oil pollution in Nigeria. This happens when oil spills occur along flowlines which are, pipelines through which crude oil extracted from the field are passed or piped to the gathering station called flowstation. Such flowlines sometimes span over 50 metres between production field and flowstation. Pollution as a result of oil spillage along flowlines are very rampant in Nigeria[9]. Because of the high frequency of spill occurrences, pollution level is very high.

At the flowstation, the crude which consists of oil, natural gas and salt water is separated in several stages. Natural gas is first separated. Of particular environmental concern is that natural gas thus separated is flared, leading to the pollution of the atmosphere with poisonous gaseous emissions and sometimes soot when such flares are smoky. The level of gaseous pollution during gas flaring is very high. This is so because over 75% of natural gas separated from crude oil is continuously burnt off in flare stacks for the past 38 years[10].

Separated water from crude oil in the flowstation is also a source of pollution in the Nigerian oil industry. Water separated from crude oil is not always oil and grease free, and has to be treated before disposal. It has been estimated that "produced water represent the largest volume of polluted effluent"[11]. The level of pollution in offshore operations is

very minimal as effluent discharged offshore are normally dissipated by waves and currents. However, the reverse is the case in nearshore and land locations where the level of pollution is very high,as the chances of such effluent being attenuated by water is very slim, thereby, posing serious danger to the environment.

Terminal Operations

Major environmental problem associated with terminal operations in the Nigerian oil industry is the discharge of oil and oily wastes from:

i. accidental spills e.g. leakages from pipe/hose bursts, malfunctioning of equipment, corrosion, e.t.c.

ii. discharges from treatment facilities of oil brine formation water.

iii. discharges from transporting vessels of ballast, bilge and clearing waters.

iv. storm water run off.

v. discharge of refined products from service vessels[12].

Other sources of pollution include gaseous emissions from gas turbines, combustion engines and hydrocarbon emissions from roof tank. Solid waste is also a generated pollutant during terminal operations.

Crude oil transported from the flowstation for storage in tank farms within the terminal form another source of pollution. Other sources of pollution include spillage along the trunkline, spillage due to malfunctioning of storage facilities and spillage during loading of crude oil into tankers. The level of pollution due to spillages during terminal operations is low. However, there is a consistency of light spillages around the loading platform especially during loading of tankers.

The final product at the terminal stage is required to be dry crude oil, free from all formation water. To this extent, crude oil undergoes several dehydration processes at the terminal. Formation water derived thereof is expected to be properly treated before it is

discharged into the sea. The discharge of such effluent poses environmental problem, in view of the fact that even when properly treated, effluent water cannot be totally oil free. Such minute oil content in effluent also has environmental consequences, especially where this is done continuously.

Effects of Oil Pollution on the Niger-delta Environment

Oil Wastes and Effluent

This is a very dangerous source of environmental degradation,yet the rate at which oil wastes and effluents are being dumped into the sea and creeks, stored in waste pits by the operating MNOCs is not yet fully realised or considered of little cause for concern. Waste pits are common sights in oil producing areas, where they are virtually open and unlined. Where such wastes are dumped in waste pits which are unlined, seepages into nearby lands, subsoil and consequently underground water occurs, thus contaminating adjoining land and ground water.

A similar situation exists in the swamp areas where untreated effluents are dumped into the creeks. This was the standard practice for over three decades by all operating companies in their respective areas of operations[13]. Effort at treating effluents before discharge is very recent in the Nigerian oil industry.

Visits to creeks around Upomami in Delta, Nembe and Bonny in Rivers state show that extensive damage has been done to the ecosystem of these mainly swampy areas. Particularly threatened is the Mangrove vegetation which is gradually drying up. Commenting on the effects of effluent discharged on the environment, Omoweh noted that water based mud (one of the effluents generated and discharged during well drilling operations) contain chemicals such as barytes, bentonite eposand, and soda ash which are dangerous to plants, animals and human lives[14].

The effect of effluents, particularly produced water separated from crude oil and discharged into the sea and creeks on a daily basis, is particularly worrying. Even when properly treated, effluents still retain toxic trace elements and when these accumulate over time they cause the land and ground water to become acidic.

Of great concern is the fact that almost no effort is made at curbing and mitigating the effects of this source of pollution in nearshore and offshore locations.

Pipelines and Land Use.

Land is cleared for the laying of seismic lines, pipelines, flowlines and trunklines. The width of such clearings are generally about 15 metres wide, stretching over several kilometres, to and from one pipeline to camps, flowstations, and terminals. It is therefore, a common feature in the oil producing areas to see vast areas (known in the oil industry as the pipeline-Right-of-way) proportionally deforested. This situation is best appreciated when one realises the fact that, the Niger Delta is primarily made up of swamps, creeks, rivers and land. On aggregate, land is a very scarce commodity in the area.

Another serious environmental effect of vast land clearing by MNOCs in the Niger-Delta is the destruction of landforms especially during road construction. This has greatly exacerbated the problem of erosion in the area. This results from construction of access roads without plan for provision of drainage and culverts that could control flood during rainy season.

Oil Spillage.

The greatest environmental hazard in the oil industry in Nigeria is oil spillage, both onshore and offshore. Effects of oil spills on the environment range from the barely tolerable to the utterly disastrous, depending on whether such discharge is minor, medium or major. Most spills fall under minor and medium, however, quantity of crude spilled during one major spill always quadruple the total of quantity of minor and medium spills in a year. In table 2 overleaf the quantity of crude oil spilled during a medium spill incidence was 87% while that of minor spills for about 21 times was only 13%.

Similarly, in a major spill at the Isimiri flowstation in Delta state, in May, 1995, about 500 barrels of crude oil was estimated by DPR staff to have been spilled[15]. The Funiwa 5-well blow-out was another major spill where about 421,000 barrels of crude oil was spilled.

Over the past two decades, there have been 3,000 recorded incidences of oil spills with over 2.4 million barrels of crude oil released on land, coastal and off-shore marine environment[16]. In September 1989, two local Governments in Rivers state - Obio Akpor and Bonny Local Government Areas, were hit by oil spillages. These spillages extended over about 25 hectares of land and adjoining sea. The source of the spillages was traced to the bursting of an oil pipe used in transporting crude oil from Bonny oil terminal to a berth near Finima. In 1994, the area recorded two other minor spills. While in April 1995, another one occurred at the Oloma oil well with an estimated 10 to 18 barrels of crude oil spilled on surrounding land and swamp areas[17].

Similarly, in July 1993, Bunu-Tai, a community in Ogoniland, Rivers state witnessed a large scale oil spillage. The source of the spillage was a rupture in a Shell pipeline. The spill lasted for over 40 days during which surrounding farmlands and streams were drenched with crude oil[18].

In January 1994, there was yet another spill at Ugborodo in Delta state. The spill affected creeks, rivers, aquatic population and economic trees. The source of the spill was traced to Chevron's Escravos Tank farm situated within the Ugborodo environs[19].

In all, research into the effects of oil spillages have shown that they retard vegetation growth and crop yield[20]. According to F.O. Harry and K. Zuola[21] for instance, crude oil has a negative effect on cassava, biomass and other tuber yield, while "crops with shorter vegetational periods (maize, melon) are relatively more negatively affected"[22].

Table 2: Analysis of Spills by Quantity Spilled.

Quantity	No of Oil Spills	% of Total Oil Spills	Quantity Spilled (BBLS)	% of Quantity Spilled
Less than 1 barrel.	17	77%	1.29	1%
Between 1 & 5 barrels.	4	18%	13.43	12%
Greater than 5 barrels.	1	5%	100.0	87%
Total	22	100%	114.72	100%

Source: Chevron Nigeria Limited: Q1 1995, JVQR January-March, 1994.

Effect of oil spillage in riverine and marine areas of the Niger Delta includes the widespread pollution of creeks, ponds, rivers and wells. The impact of this is twofold, first, oil pollution leads to loss of fish, crustaceans and other aquatic animals. Second, it leads to the contamination of rivers and streams and consequently, the loss of potable water which is made unsafe for human and animal consumption.

Significantly affected is the mangrove vegetation which, according to Lekue Loolo is now being replaced by wild water palms known in the Niger Delta as "the Shell plant"[23]. The destruction of the mangrove forest according to him is more devastating in view of the fact that seafoods such as oysters, clams and shellfishes thrive in this habitat and are now fast diminishing and dying off.

The indispensability of the mangrove forest derives from its adaptability and capacity to grow extremely well in sea water which it desalinates through an ultrafiltration process. According to Eboe Hutchful, mangrove swamps are:

> *a major breeding ground for the products of the onshore and offshore fishing industry, providing nurseries and feeding grounds for many commercially important species of fish and crustaceans. The stilt roots... are usually associated with a varied fauna of oysters, snails, barnacles, crabs and other invertebrates, while the upper parts of the mangrove support various birds, mammals and insects.*[24].

Other uses of the mangrove forest includes: for commercial lumbering useful for the construction of buildings, dock pilings, fence posts and fish traps.

On the effects of oil spillage on the Niger Delta, Hutchful therefore observed that mangrove swamps are "oil traps" areas that retain spilled oil for long periods and are difficult to depollute. Consequently, within three months of initial spillage, most mangrove trees die or defoliate and where this does not occur, the mangrove trees are subject to back fissuring, scarring, and leaf deformities[25]. A trip from Port Harcourt to Bonny town in a speed boat reveals that at various intervals during the 55 minutes journey, there were patches of drying and withering mangrove tree on both sides of the river[26]. The situation is similar to other Niger Delta communities visited during field trips.

In terms of aesthetic, the Niger Delta is also impacted on by oil production activities, such that the area is dotted with waste pits, caked land and slimy creeks, as shown in Plate I overleaf of an oil-spill impacted land in Ogoniland with its caked surface, dried and unfertile vegetation.

Plate 1: An Oil-Impacted Land,Ebubu,Ogoniland.

Source: MOSOP, Port-Harcourt.

Gas Flaring

The flaring of associated gas separated from crude oil production is a standard practice amongst MNOCs operating in the country. During gas flaring, hazardous gases such as carbon-dioxide (CO_2), oxides of nitrogen (NO), oxides of sulphur (SO) and particulates are freely discharged into the air with far reaching effects on plants and human life.

On a cursory look, the effect of gas flaring on plants growth cannot be properly appreciated. For instance, Kayode Soremekun has noted that, apart from retarding plant growth, the heat produced during gas flaring also destroys chlorophyll, which is essential for the production of green plant food[28]. He further noted that "such heat breaks down the thermal insulation of these plants, thereby exposing them to excessive loss of moisture and tissue fluid. Under these conditions, such plants will wilt and die"[29]. Gas flaring has therefore, made cropping not only difficult, but reduces harvest over time. Plants, and (for instance cassava) crop growing around flaring areas in Oloma, Rumuola, Choba and Obagi in Rivers state were noted to be affected by the thermal environment. The inhabitants of these communities also complain of poor crop yield.

Another effect of gas flaring is the incidence of acid rain. The excessive flaring of gas by MNOCs in Ogoniland, for instance, has not only led to the destruction of wildlife, plant life and poisoning of the atmosphere and human habitat[30], but "whenever it rains in Ogoniland, all we have is acid rain which further poisons water course, streams, creeks and agricultural land"[31].

For the Obagi residents, the most troubling effect of the gas flared in their locality is the continuous and flaming glow as well as deafening noise of the flare, especially at the night time. Also of concern is the rate at which roofing sheets in the area get corroded. Residents are convinced that this is, as a result of the gaseous emissions from the flare. As

precautionary measure, most residents paint the zinc-type roofing sheets, which is predominantly used in villages, with red emulsion with the belief that life span of such sheets will be prolonged.

Mnocs Efforts at Preventing, Controlling and Rehabilitating the Degradation of the Environment

Pollution in the oil industry hardly occurs spontaneously. While some are routine with oil production activities, most of them are preventable. How well have the MNOCs operating in the Nigerian oil industry been able to:

i. minimise and prevent pollution in their areas of operations?

ii. control oil pollution during oil production activities? and

iii. rehabilitate severely polluted areas?

Attempts will be made to address these and other relevant questions in this section.

Prevention

Prevention of oil pollution is better, easier and cheaper than combating it. MNOCs in Nigeria have maintained that they have always been committed to prevention of oil pollution and would continue to do so. All the MNOCs operating in Nigeria have expressed their determination to maintain safety and environmental standards. The SPDC has severally affirmed that it is "working hard to renew aging facilities, reduce the number of oil spills in the course of operations, the amount of gas flared, and to reduce waste products"[32]. In the same vein, CNL maintained that:

> *Chevron Nigeria Limited has a comprehensive pollution - prevention programme that has resulted in a significant facilities up grade in the last couple of years and is still on - going*[33]

Similarly EPNL's environmental policy statement maintained that in EPNL "it is our policy to conduct our activities in such a manner to minimise the impact on the environment[34].

In determining how well the MNOCs have been faithful to their individual policy statements on the prevention of pollution during oil production operations, three areas were examined.

Environmental Studies

Environmental studies of proposed areas of operations are useful planning and management tools in the oil industry. Essential studies recognised globally as pre-condition for oil production activities are: environmental impact assessment, environmental sensitivity index (ESI) mapping, baseline studies, and seabed sampling. The results of these studies go into the design, construction and operation of oil production facilities. The EIA is particularly important in a country where the protection of the environment is of prime concern. In Nigeria premium was not placed on EIA studies until December 1992, when the Environmental Impact Assessment Decree was promulgated. Section 2 of the Decree is instructive as it stipulates that:

> *Where the extent, nature or location of a proposed object or activity is such that is likely to significantly affect the environment, its environmental impact assessment shall be undertaken in accordance with the provisions of this decree*[35].

In recognition of this fact that oil production activities lead to the discharge of pollutants that degrade the environment, the Department of Petroleum Resources (DPR), that regulates activities in the Nigerian oil industry stipulates in the National Environmental Guidelines and Standards (NEGAS) that it shall be mandatory before licenses and leases are granted to operators in the Nigerian oil industry:

> *to conduct an EIA for every development activity such as:*

i. *Onshore and nearshore development drilling.*

ii. *Construction of onshore and nearshore flowlines, delivery lines and pipelines in excess of 50 kilometres in length.*

iii. *Construction of onshore and nearshore flowstations and production stations (production platforms)*[36].

Pertinent as this assessment study is to the protection of the oil producing areas environment, there is no record of any EIA done in the last three decades of intensive oil production activities in Nigeria. Though the EIA decree and NEGAS came into existence lately in 1992 and 1989 respectively, this does not however, exonerate the MNOCs operating in Nigeria.

MNOCs being foreign companies with considerable experience in other parts of the world, have a wealth of experience on standard 'Good Oilfield Practices'. They are required to do what is universally acceptable and obtainable worldwide, irrespective of the short-sightedness of regulatory policies in the host countries. For instance, Lasmo Oil (Malacca Strait) Ltd. (LOMSL) in developing the Lalang field in Indonesia in 1984, ensured that an EIA study was done for the field prior to the commencement of oil production operations in the area. This LOMSL did at a time when "there was no government regulation effective at that time that required on EIA study for a project development"[37].

The EIA scenario was the same with the other studies. However, it should be noted that the MNOCs disregard for "good oil field practice" have reduced since 1992. Regulations, in conformity with increased global concern for the environment, are now stringent in preparation of studies. Also, oil producing communities agitations for better production practices have been instrumental in raising awareness on the reckless manner MNOCs in the country have been operating.

Subsequently, most MNOCs are now forced to place premium on environmental studies. For instance, CNL has done several environmental studies. Figure I shows a list of new CNL's facilities that have had their EIA done and those pending. In the same vein, though, EPNL does not have any EIA study on any of its facilities[38], Other studies especially ESI have been done. SPDC has also done some EIA study for some of its facilities, especially since 1993. Examples of such studies are EIA of the Gongola (now Adamawa and Taraba states basin before commencement of seismic shooting operations, and EIA for the upgrading of the Forcados Terminal.

Figure 1: CNL EIA Report Currently with DPR and NAPIMS

Opuekeba pipeline EIA
Olero creek EIA
Opuekeba field EIA
Robertkiri field EIA
India field EIA
Idama field EIA

CNL EIA Studies Pending Completion

Gas Utilization Project EIA
Ecological Studies/EIA - Okagba `A' Seabeds survey
Baseline/Ecological Assessment of Hely creek Deep Well
Benin River Project
OML 53 Development Project
OML 52/55 Offshore
Benue Trough
Ewan Field

Source: Environment and Safety Department, CNL, Lagos, 1994.

Technology

In a recent study undertaken by Greenpeace on the environmental and social effect of Shell's operations in Nigeria, it is argued that many of Shell's "operations and materials are outdated, in poor conditions and would be illegal in other parts of the world"[40]. This perspective brings into focus one of the issues raised in the statement of the problem of this research. The contention that MNCs deliberately lower or ignore safety and operational standards when operating in LDCs and that when they transfer technology at all it is often obsolete.

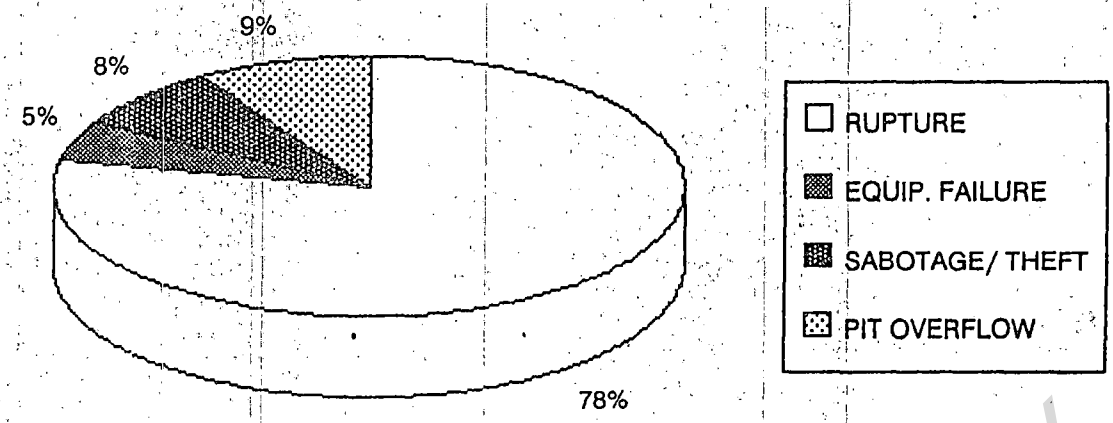
The contention is pertinent here, in view of the fact that the use of up-to-date technological infrastructure and materials will aid efficiency and subsequently reduce the incidence of accidental discharges. For this purpose, constant upgrading of equipment and facilities is desirable. During such up-grading exercises, new technology will be introduced and outdated facilities replaced.

Until about two years ago, Shell did not embark on any major upgrading exercise. This meant that some pipeline had been used for up to thirty years. The same goes for the materials used in flowstations and production platforms. This explain why therefore, on average since 1989, when quantity of oil spilled per day has been 7,350 barrels, half of the volume of quantity spilled has been due to corrosion of materials, mostly flowlines[41].

The story is the same in CNL and EPNL. Figure 2 shows distribution of causes of oil spills in SPDC and EPNL. In each of the companies, half the total quantity of oil spilled in 1994 was due to corrosion of materials. In other words, half of the total quantity of oil spilled every year is preventable if proper upgrading, especially of pipelines are done.

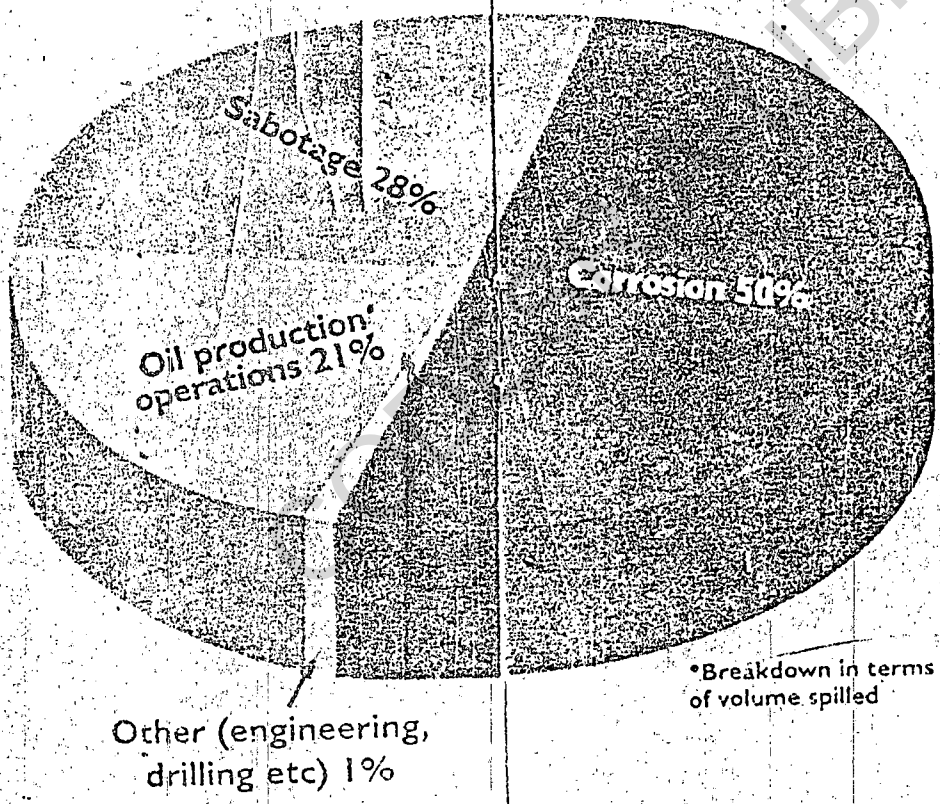
Figure 3: Distribution of Spills per Cause, 1994

CNL



Source: EPNL, Port Harcourt

SPDC



Source : The Environment: Nigeria Brief (Lagos: SPDC, 1995)

It is however noteworthy that SPDC has recently embarked on a large scale upgrade programmes for its facilities. Swamp flowlines older that 15 years are currently being changed and this is projected to be completed by the end of 1996. The company has also upgraded 15 out of its 46 Eastern Division flowstations while work has started on those in the Western Division. Work in the two divisions are scheduled to be completed in 1999. The company's two export terminals are not left out. The Bonny and Forcados terminals are undergoing major refurbishment that include installation of modern safety and water containment, treatment and disposal system and the rehabilitation of all storage tanks[42].

CNL is also on the path of upgrading. It has upgraded two production facilities, Delta south and Opuekeba platforms out of the 21 production facilities it presently has. Also, the company has drawn up an upgrading programme that will stretch to 1997 by which time all the facilities would have been upgraded[43].

With EPNL, the story is slightly different. According to the Manager, Environment and Safety, there is no plan yet for major upgrading of EPNL facilities[44]. He insisted that there is no need for such in his company as outdated materials are replaced on a routine basis. Also, in connection with old pipeline replacement, he saw no need for such. For according to him, EPNL places a lot premium on cathodically protecting its pipelines, a measure that other companies are yet to effect.

In their response to the contention that MNOCs in Nigeria use obsolete technology in the production of crude oil, the Environment and Safety Managers in CNL and EPNL respectively asserted that no oil company anywhere in the world can afford to use obsolete technology in the oil industry. This they maintained is because, apart from the degradation of the environment, lives of company's crew will be at risk[45]. The EPNL, specifically noted that, new technology enhances greater efficiency and consequently, greater yield,

which in turn would yield more profits for oil operators. Whereas, each leakage or spillage incidence, apart from polluting the environment and incurring clean-up expenses, is a loss to the company involved.

Validating the above views, Claude Ake agreed that because of the nature of crude oil production, MNOCs in Nigeria use up-to-date technology because it is beneficial to them to do so[46]. But, he averred that the same does not hold in the area of pollution control. He noted that there are more sophisticated technology for oil spill clean-up than what MNOCs use in Nigeria. Citing the Gulf war instance, when several oil wells were set on fire and thousands of barrels of oil spilled, he noted that the vast pollution caused was dealt with, with appropriate technological apparatus that did not only skim the surface of land and sea of oil, but also depolluted land and subsurface and seadepth. Clean-up operations in Nigeria however, he concluded, is only limited to the cleaning of surface oil which is why for instance, there is periodic seeping of oil to the surface at the 30 years oil spill site at Ebubu in Rivers state after several clean-up exercises.

Gas flaring is an area where MNOCs efforts have shown glaring neglect. The flaring of gas can be prevented in two ways. One, it can be re-injected into the earth and, two, it can be liquidified and marketed. The first option will help conserve gas for future use, while the second option will generate more earnings for both the operating companies and host oil producing countries. The rate at which MNOCs flare gas in Nigeria is very high. Table 3 shows that Nigeria is the highest gas flaring OPEC country, flaring over 75% of its gas in contrast to Algeria for instance, that produces triple the quantity of Nigerian gas but does not flare up to 5% of its gas output[47]. The expectation is that when the Liquified Natural Gas (LNG) Project takes off, most of the gas being flared will be utilised. SPDC reinjects some of its associated gas and also plans to collect and supply some companies the LNG[48]. CNL will also supply the LNG project gas.

Table 3: Natural Gas Produced, Reinjected, Flared and Shrinkage in OPEC Member Countries, 1989-1993 (million barrels)

	1989	1990	1991	1992	1993	% Change 93/92
ALGERIA						
Gross Production	119,650	126,610	127,090	128,040r	133,729	4.4
Marketed	48,400	51,600	53,910	53,246r	53,872	1.2
Flared	6,120	4,520	4,500	7,226r	6,716	-7.1
Re-injected	59,640	64,250	62,150	62,520r	67,936	8.7
Shrinkage	5,490	6,240	6,530	5,048r	5,205	3.1
GABON						
Gross Production	2,170	2,480	2,690	2,690	2,690	–
Marketed	90	100	100	100	100	–
Flared	1,720	1,760	1,920	1,890	1,890	–
Re-injected	300	540	570	600	600	–
Shrinkage	60	80	100	100	100	–
INDONESIA						
Gross Production	55,938	61,245	69,710	73,130r	74,200	1.5
Marketed	43,234	47,580	51,370	54,190r	55,800	3.0
Flared	4,083	4,721	5,750	6,140r	5,350	-12.9
Re-injected	7,421	7,784	11,440	11,660r	11,900	2.1
Shrinkage	1,200	1,160	1,150	1,140r	1,150	0.9
I.R. IRAN						
Gross Production	43,400	54,530	57,850	58,200	60,000	3.1
Marketed	22,200	24,200	25,750	25,000	27,070	8.3
Flared	1,500	11,350	11,600	11,300	8,630	-23.6
Re-injected	18,000	17,080	18,400	19,600	21,800	11.2
Shrinkage	1,700	1,900	2,100	2,300	2,500	8.7
NIGERIA						
Gross Production	25,129	28,430	31,460	33,710r	36,780	9.1
Marketed	4,322	4,010	4,400	4,720r	5,150	9.1
Flared	18,784	22,410	24,660	26,290r	28,690	9.1
Re-injected	1,981	2,010	2,400	2,700r	2,940	8.9
Shrinkage	42	–	–	–	–	–
QATAR						
Gross Production	7,270	6,860	10,130	17,050	18,400	7.9
Marketed	6,200	6,300	7,630	12,620r	13,500	7.0
Flared	–	–	500	–	–	–
Re-injected	–	–	1,200	2,830r	3,100	9.5
Shrinkage	1,070	560	800	1,600	1,800	12.5
SAUDI ARABIA						
Gross Production	46,500	54,100	64,700	66,100	67,300	1.8
Marketed	29,800	30,500	32,000	34,000	35,900	5.6
Flared	4,100	7,550	13,100	11,520r	9,900	-14.1
Re-injected	2,600	3,350	4,400	5,180r	5,800	12.0
Shrinkage	10,000	12,700	15,200	15,400	15,700	1.9

Source: OPEC Statistical Bulletin, 1994

It has already embarked on a multi-phase gas utilization programme at the Okan and Mefa fields in Delta state. The project named the Escravos Gas Project will help reduce up to 80% of associated gas which CNL is currently flaring. The first phase of the project is expected to be completed by 1997[49]. EPNL also plans to gather and supply some of the associated gas it is presently flaring under the LNG project[50].

The prevention of oil spillage during blow-out incidence is one area where MNOCs have made substantial efforts. Perhaps this is because of the need to effectively avoid the high level of destruction synonymous with blow-outs.

The use of blow-out Prevention (BOP) fluid during drilling and production operations has become a standard practice among MNOCs in Nigeria. This explains the low incidence of blow-outs in the Nigerian oil industry.

In minimising the discharge of effluent especially produce formation water, EPNL has a water re-injection programme at the Obagi flowstation[51]. The company has thus prevented the discharge of effluent in nearby rivers. Similar action by other companies would greatly help minimise the effect of effluent discharge on the environment, especially in land operations.

MONITORING

The monitoring of companies facilities in the area of environmental pollution during drilling and production activities is the third tier of preventive measures examined in assessing MNOCs efforts at preventing oil pollution and environmental degradation in their operating areas. Constant monitoring of facilities and strict operational rules are very important in the oil industry. It helps in detecting abnormal operations, that could result into mishaps during drilling and production operations. Also, it aids early detection of oil leakage along pipeline routes and from loading vessels. Also, monitoring of air emissions, waste discharge at production and processing facilities are necessary to ensure that such

discharge meet standard requirements stipulated by DPR, before being released into the environment.

For companies operating in coastal and offshore areas of Nigeria, DPR then known as the Petroleum Inspectorate, in 1988 mandated all such companies to install oceanographic and meteorological monitoring equipment in their coastal and offshore operational locations[52]. These various pieces of equipment are to help in gathering data that will serve as necessary tool for oil spill risk assessment and management.

CNL in compliance with DPR mandate, has installed meteorological monitoring equipment at some of its offshore locations[53]. This was done five years after in October and December 1993 at Okan, Parabe and Escravos River locations. Similarly, EPNL has installed meteorological monitoring equipment at the Upomami swamp location, while the one for OML 100 has already been purchased and awaiting installation[54].

SPDC and EPNL undertake visual patrols of their facilities to detect oil sheen around production platforms and along pipeline routes[55]. For this purpose, EPNL efforts are complemented with those of local communities who are paid to protect and monitor pipeline routes, and well-head sites in their areas and report promptly to Elf office, when any abnormality is detected[56]. Also, the company carries out comprehensive inspections on fields, offices and other facilities.

Control

Where there are inevitable cases of pollution of the environment they are mainly due to routine or accidental discharges. Accidental discharges are mainly owed to human errors, equipment failure and natural disasters (e.g. lightning, flood). Level of discharge is determined by the level of commitment of good oilfield practice.

The prevention of oil pollution, especially in the area of oil spillage is more desirable than combating it. Such preventive measures however, only help in reducing to a

manageable level, oil pollution incidence for as Augustus Aikhomu argued - "as long as petroleum prospecting and exploitation continue, so long shall we have to bear with these inevitable problems of oil spillage of various dimensions"[58] In view of the above fact, how well are the oil multinationals prepared and equipped to control and combat oil pollution of various dimensions; clean up; and rehabilitate inevitably impacted environment?

There are several levels of response to oil spillage by MNOCs operating in Nigeria, in correspondence to the three forms of discharge which include:

i. The outflow of drilling mud out of the mud pits.

ii. The uncontrollable flow of formation fluids while operating on oil wells.

iii. The outflow of crude oil from storage tanks flowlines and wellheads[59].

The first level of pollution response by oil-industry operators is the use of MNOCs in-house response team for the control of minor spills involving the discharge of less than 25 bbls ($4m^3$) in inland water, or 250 bbls ($40m^3$) on land, coastal/offshore waters[60]. To control and combat such spills, each MNOCs has a DPR approved Oil Spill Contingency Plan, Stockpile of oil spill control equipment and a well-trained manpower.

The second tier of oil spill response programme deals with medium spills where discharge between 25-250 bbls ($4-40m^3$) in inland waters, or 250-2500 bbls ($40-400m^3$) on land, coastal/offshore waters are involved[61]. At this level, a co-operative response team formed and financed by 12 oil companies - the Clean Nigeria Associate (CNA) takes care of such spills on behalf of any of its affected liable members.

The third category of response involves the discharge of over 250 bbls ($40m^3$) in inland waters, or 2500 bbls ($400m^3$) and above on land, coastal/offshore waters[62]. This involves the activation of the National Oil Spill Contingency Plan, where the Navy, Airforce, Customs and Port Authority personnel and all other relevant agencies are mobilised for joint national spill response. Assistance from every available source is

promptly sought, as such discharges are at great cost to the operating companies and host communities. This national oil spill response has, however, not become functional. In its stead, MNOCs in the country rely on their parent companies oil spill response team for the control of major spill. CNL relies on Chevron Corporate Worldwide Oil Spill Response Team, SPDC on Shell Response Limited, EPNL on Elf Aquitane Response Team.

A distribution of oil spill accidents as shown in Table 4 below indicates that most spills are minor, and consequently, the control of such discharges fall within the jurisdiction of the MNOCs in-house oil spill response team.

Table 4: Classification of Oil Spills in 1993

QUANTITY	NO OF OIL SPILLS
Less than 1 barrel	56
Between 1 & 5 Barrels	10
Greater than 5 Barrels	5
TOTAL	**71**

Source: Chevron Nigeria Limited: Ql 1995, JVQR January-March, 1994.

To control such spills, pre-knowledge about the vulnerability of each company's facility to oil spills is needed. This will help in determining the equipment to be made available for immediate use. Also, there must be a standby oil spill response team which must be well trained on how to operate clean-up equipment. At all the three Stockpiles of clean-up response equipment such as boom, sorbent sheets, skimmer, outboard engine boats, floating hoses, vacuum trucks, etc. CNL in particular, had a simulation exercise on

environmental and safety preparedness at its Delta South Production Platform. Also, every year, each company embarks on staff training programmes on environmental management. The aim is to ensure environmental consciousness on the part of everybody, irrespective of staff unit or specialisation within the companies[63]. To further enhance efficiency and awareness in the industry, personnel from DPR and NAPIMS are incorporated into such programmes.

When a spill is reported or noticed, the first action is to stop the flow of crude oil coming from the well. CNL has a remote shutting device that detects abnormality in operation and automatically stops the delivery of crude oil from the feeder well[64]. Similarly, during the depollution operations for the Odhiage oil spill that was reported on November 29th, 1994, the Elf Depollution Task Force, after determining the source of the spill, stopped the flow of crude oil on the Obagi flowstation to Rumuekpe delivery line (River state) on 7th December 1994[65].

However, the Ogoniland flowline spill of July 1993, where crude oil spilled for 40 days before it was brought under control, is an example of occasions when the flow of spilled oil is not immediately stopped[6].

When the source of spilled oil has been shut, the next line of action is the notification of government regulatory agency - DPR, and the Joint Venture Partner - NAPIMS, about the incidence. Such notification must be made within 24 hours of discovery. But, event have shown that MNOCs have not adhered strictly to this as notification usually comes two or three days after the discovery of a spill[67].

For the control of oil spill in Nigeria, it has become mandatory in the oil industry for operating companies to draw up oil contingency plan for minor spills clean-up. Presently, all the MNOCs in the country activate their contingency plans yearly, witnessed by officials from FEPA and DPR who review the response processes and point out lapses

and areas needing improvement, and then make recommendations which are all incorporated into a new contingency plan[68].

At the polluted site, the first thing to do is to take adequate measures to prevent excessive pollution and spread of the spilled oil, on the environment. Oil spill control tools used for this purpose are essentially, booms, absorbent and skimmers. These are used to contain the spilled oil, especially in swamp and coastal areas, where oil spread into nearby mangrove swamps and creeks.

Subsequently, clean-up operations are embarked on. At this stage, various environmental studies previously done come handy, especially the ESI mapping. This is because apart from mapping environmental sensitivities of operating areas, the ESI also gives recommendations and information on oil spill response suitable for each habitat.

Efforts are made to recover as much as possible spilled oil at the spillage site. Most times, crude oil recovered are minimal especially where spills are on water and thereby vulnerable to current and tidal waves. For instance in 1994, SPDC was only able to recover 29% of total oil spilled during the year[69]. Yet, at other times, the quantity of spilled oil recovered was substantial. In 1993, SPDC recovered about 70% of spilled crude oil[70]. Also EPNL, was able to recover about 90% of spilled oil at the Odiaje oil spill site of November 1994[71].

The main reason adduced for the inability of oil companies to recover substantial quantity of spilled crude oil is delay in response time after companies have been notified of spills. The delay, according to SPDC and EPNL is due to oil producing communities hostility to clean up response teams who are denied access to spill sites. This was SPDC response to why oil leaking from a ruptured flowline spilled for 40 days without the company's official stopping the flow or repairing the oil spewing pipeline. Events have shown that MNOCs often conceal spills hoping they can be managed without undue

publicity and lessen host communities compensation claims.

Consequently, compensation for lives and the de-spoiled environment during oil spill now precede instant clean up operations. This brings into focus the issue of compensation and rehabilitation of the people and the affected environment. SPDC maintained that it always paid due compensation to affected communities[72]. The above claim is also made by CNL and EPNL. Eboe Hutchful agreed that oil companies often do pay compensation for polluted lands and community waters, but that, it was after "protracted negotiations and expensive lawsuits"[73]. Most of the fund, he argued further never reach the affected communities, as compensations are hardly paid directly to the communities but through intermediaries who appropriate the bulk of the amount paid.

SPDC agreed that cleaning up of spills and payment of compensation by the company are sometimes unacceptably long, but it plans to improve on the time used to respond to spill and pay compensation[74]. CNL maintained that it has always paid compensation when due and plans to continue to do so promptly[75]. EPNL also insisted that it has always paid adequate compensation when due and has further initiated company-communities consultative committee, which meets every three months to discuss ways of maintaining company-communities cordial relations as well as decide on types of development projects needed by the communities[76].

Rehabilitation

While adequately compensating people whose lives and property are polluted during an oil spill, there is also the need to rehabilitate the environment. The objective of an environmental restoration programme is "to reduce the oil content and then re-establish a vegetative cover"[77] of the impacted spill area. This can be achieved in two ways, either through natural recovery of site, or re-gassing of impacted environment. Natural recovery

takes about 25 years on the average, or more (depending on the severity of the spill) before spill sites are restored to their pre-spill condition[78]. As such, the first option is not a convenient choice, for it leads to several abandoned environmentally and economically waste lands.

A critical review of SPDC, CNL and EPNL operations shows that while SPDC and CNL randomly embark on restoration programmes for oil discharge sites, especially when DPR specifically requests that such be undertaken, EPNL in its over 30 years of oil production in Nigeria has never embarked on any environmental restoration programme on its spill sites.

However, there is a lot of merit in embarking on environmental restoration by MNOCs. Such restoration programmes will make impacted areas useful within the shortest possible time. This will help in forestalling company-communities conflict which mainly border on issues of adequate compensations on land and rivers rendered unproductive for long periods. This is especially so where communities ill feelings are fuelled where and when money given as compensation are spent within a short period, while the effects of pollution last longer.

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37. See Achmad Kosasih and Mohammad Shobirin; "Implementing an Environmental Management System on an Oilfield Operation in Sumatra", in Journal of Petroleum Technology, (Society of Petroleum Engineers, January 1995), p. 43.

38. Based on findings during this researcher's one week attachment to EPNL.

39. The Environment: Nigeria Brief, Op. cit., p.

40. Shell-Shocked, Op. cit., p. 5.

41. The Environment: Nigeria Brief, Op. cit., p. 3.

42. Ibid, pp. 3-4.

43. Information obtained during discussion with Mr. Madison, the Escravos field supervisor, while the researcher was on field trip to CNL facilities.

44. Interview with Mr. Ebong, Environment and Safety Manager of EPNL during researcher attachment to EPNL office in Port-Harcout.

45. Views of Mr. Ebong (EPNL), and Mr. Bill Hookey (CNL).

46. Views of Prof. Claude Ake during an interview with the researcher at Centre for Advanced Social Science, Port Harcourt, August 1995.

47. OPEC Statistical Bulletin, (Vienna: OPEC, 1993).

48. The Environment: Nigeria Brief, Op. cit., p. 7.

49. "CNL Environment and Safety Efforts/Compliance", Op. cit.

50. Findings during researcher's attachment with EPNL.

51. Ibid. Also based on field trip to Obagi flowstations and environs in Rivers state.

52. Petroleum Inspectorate (DPR) letter to all oil companies on 16th September, 1988. Reference PI/OPS/TSD.3019/V.10/26.

53. "CNL Environment and Safety Efforts/Compliance", Op. cit.

54. The equipment was awaiting installation as at the time the researcher was on attachment with EPNL.

55. NAPIMS - NNPC Source.

56. Findings during researcher's attachment with EPNL.

57. "1994 EPNL Safety and Environment Annual Report", (Port Harcourt: EPNL, 1995).

58. Augustus Aikhomu, Speech at a Symposium in Badagry, 1994.

59. See Elf Petroleum Nigeria Limited Oil Spill Contingency Plan, (Port Harcourt: EPNL, 1991).

60. Based on DPR classification.

61. Ibid.

62. Ibid.

63. Findings on field trips to CNL and EPNL facilities. Also based on data obtained at NAPIMS.

64. "CNL Environment and Safety Compliance", Op. cit.

65. Unpublished Classified Report.

66. Panoscope, Op. cit., p. 2.

67. Findings based on discoveries with some DPR staff between January to November, 1995.

68. Ibid.

69. "1994 Environment Highlights" (Lagos: SPDC, 1995), p. 3.

70. Ibid., p. 3.

71. Unpublished Classified Report.

72. The Environment: Nigeria Brief, Op. cit., p. 4. The same claim is made at the EPNL Community Relations Department.

73. Hutchful, "Oil Companies and Environmental Pollution in Nigeria", Op. cit. p. 121.

74. The Environment: Nigeria Brief, Op. cit., p.5.

75. "CNL Environment and Safety/Compliance", Op. cit.

76. Based on interview with the Manager, Environment and Safety, EPNL.

77. Quoted in Harry and Zuofa, Op. cit., p. 6.

78. Ibid, p. 6.

CHAPTER FOUR

ENVIRONMENTAL POLICY AND THE OIL INDUSTRY IN NIGERIA

Introduction

The discussion in the last chapter has shown that the Niger Delta environment has been greatly degraded and devastated by oil production activities. Moreso, the devastation of this area has been exacerbated by MNOCs non adherence to the principle of "good oil-field practice" especially prior to the 1990s. However, as a result of various factors, the MNOCs non- challant attitude is gradually changing. These various factors and how MNOCs in turn have responded to them are the focus of this chapter.

International Environmental Regulations

The concern for the environment has become a global issue. Prior to the 1950s environmental issues were treated as discrete issues which concerned only the nationals of the affected areas. However, by the end of the 1950s, a new global awareness had developed. People started to realise that they shared a common world and that environmental problems defy national boundaries. It was realised for instance that water pollution can affect many countries sharing the same rivers and seas, while pollution can have equally severe transboundary impacts. In short, according to Jean Audouze, "people have realised that environmental problems are not somebody else's. They are everybody's"[1].

Today, global concern for the environment is widespread and encompasses a variety of critical environmental hazards such as stratospheric ozone depletion, global climate change, landslide, degradation of soil, water resources essential to increased food production, loss of biodiversity, acid rain, oil spillage and gas flaring. The latter hazards are the focus of this study as they are oil production induced pollution.

This danger to, and the deteriorating state of, the global environments geared up individuals, governments and non-governmental organisations (NGOs) towards findings solutions to the world environmental problems, and setting standards on how the world environment can be protected. Major international initiatives on the environment include the June 1972 Stockholm Declaration of the United Nations Conference on the Human Environment which took place in Stockholm, Sweden.

The Montreal Protocol on the Environment followed it the same year, and in 1973, largely as a follow-up of the 1972 Stockholm Conference, the United Nations Environmental Programme (UNEP) was established as a specialised agency of the United Nations[2].

By the late 1980s, the environmental fever had gripped every country, and various organisations, and in 1992, the United Nations Conference on Environment and Development (UNCED) otherwise known as the "Earth Summit" took place in Rio de Janeiro, Brazil[3]. The conference focussed on the relationship between economic development and environmental degradation, and extensively relied on the report of the United Nations World Commission on Environment and Development of 1983. The report principally emphasised the need to engage in activities that will aid development without endangering the world for future generations. Included in the list of the world's most pressing environmental problems is carbon- dioxide (CO_2) emission, while fossil fuel, especially petroleum was recognised as a major source of such pollution[4].

International efforts at preventing and controlling oil pollution was initially restricted to oil spillage on the high seas. This was because major large scale oil pollution were first witnessed on the high seas involving oil bearing ships. The first highly devastating oil spill incidence happened in March, 1939 when an oil bearing tanker Exxon Valdz hit a rock off the coast of Alaska spilling crude oil over 1,600 kilometres of waters and nearby coastline[5].

Prominent among the pioneering efforts at international prevention and control of oil pollution on the high seas are, the 1958 Geneva Convention on Oil Pollution and Exploration of the Continental Shelf on the High Seas, International Convention on Civil Liability for Oil Pollution Damage, and the series of United Nations Conventions on the Law of the Sea. The conventions specifically prohibit the discharge of oil or oily substances by tankers and stipulate conditions on how and when such can be done.

A critical look at these international regimes show that at the international level much has not been done to prevent, control, and regulate pollution of land and swamp areas, during onshore and nearshore oil production activities.

Also non existent is a uniformity of international rules and regulations which stipulate operating standards to be followed by MNOCs during oil exploration and production activities. Instead, there are several "International Standards" synonymous with specific national guidelines and standards of some countries who are believed to have the best regulatory frameworks in the industry. These countries also in most cases are home countries to most MNOCs with global operations. Subsequently, each company tends to adopt its parent company's operating standards. For instance, the Shell group has an international operating standard that is supposedly operational worldwide wherever a subsidiary operates. The same can be said for the Chevron group which uses United States standards and Elf group which uses French standards.

The absence of a uniform international operating standards for MNOCs operations can be linked to the difficulty inherent in controlling MNOCs activities generally, where the United Nations efforts discussed in chapter two have yielded no positive result.

However, there are some international institutions whose guidelines and standards are used as yardstick for assessing practices in the international oil industry. One of these is the American Petroleum Institute (API) which recommends specific operational practices in all branches of the petroleum industry in the United States. Others are, The Oil Companies International Marine Forum (OCIMF) and The Oil Industry International Exploration and Production Forum. Both are international associations of oil companies, engaged in the co-ordination of member companies' offshore activities transportation of crude and oil products by sea, and the protection of the marine environment from pollution[7].

In determining whether or not MNOCs in Nigeria comply with international standards during oil production activities, one is constrained to assess a particular company's practices in its home country with its operating practices in Nigeria. In this respect, does SPDC for example operate in Nigeria using the same standards employed by Shell International Petroleum Corporation in its operations in Europe. Also does CNL observe all safety and operational standards in Nigeria as it does in the United States? similar questions can be posed in respect of Elf, Mobil, Agip and other oil multinationals operating in the country.

Present practices show that the MNOCs are not operating in Nigeria on the same level as they do in their home countries and in the developed countries as a whole. For instance, oil companies operating in the United States are completely prohibited by United States regulations from discharging produce water or drilling mud from onshore

facilities into surface water bodies. Also, "produced water has to be reinjected into disposal wells, while drilling mud are to landfilled or placed into surface impoundments"[8]. In Nigeria however, MNOCs discharge their wastes indiscriminately into shallow pits, retention pits, nearby rivers and mostly in the creeks. The re-injection of produced water is not a standard practice by SPDC and CNL. Even with EPNL which reinjects produce water at its Obagi flowstation in Rivers state, the company's reinjection programme has not been extended to other production facilities.

This situation existed for long and still does mainly because, by the late 1950's when MNOCs started operations in the country, the oil industry was a new terrain, while the developed world, for instance Britain and United States, had gained over a century of oil production experience[9]. By 1969, when the Petroleum (Drilling and Production) regulations came into being, the only operational modality laid out for MNOCs operations in the country was the conduct of their operations in a manner consistent with "good oilfield practice". Ndibe V. Okoye noted that though reference was made to prevention of land pollution during operating processes, such references were "not in as much detail, scope and precise standard, as one would expect in similar environment laws in the United States, Canada or the United kingdom"[10].

Thus, the MNOCs were given leeway to operate as they deem fit. Consequently, operating practices differ from one company to the other on the groud that they follow individual company's corporate practices. This is not to say that such corporate practices are not standard or adequate for ensuring standard environmental protection practices, but they have been very difficult to enforce by the state regulatory agency.

Reasons for the state's inability to effectively regulate and enforce environmental protection policies are attributed to two factors. The first being because for the first three decades of oil production activities in Nigeria, the Federal regulatory agency, formerly

known as the petroleum inspectorate, lacked basic data, experience, experts and infrastructural facilities for monitoring and regulating the activities of the MNOCs. This situation was further compounded by the agency's reliance on the oil companies and their home governments for necessary data required for the formulation of regulatory policies and standards for the control of the oil industry[11].

Secondly, the Nigerian state lacks the political will and interest to regulate MNOCs activities in the country. This is because of the position oil production activities and its accruing benefits occupy in the national economy. The oil industry being responsible for the generation of over 75% total government revenue between 1970 till the present day, the state has been reluctant to encourage effective control and the regulation of the activities of MNOCs, especially where such "may threaten the expansion of production"[12].

Noteworthy is the fact that developing countries especially, during periods of economic stagnation, have preferred to avoid supposedly economically "unreasonable" legislation, but pay lip service to international environmental protection policies, moreso, where such will help in securing foreign aid and loans.

Developing countries, particularly African countries have become debt burdened and in a situation where they have to increasingly rely on their natural resources to "obtain funds for development programmes, citizen welfare, and to settle or service debts and other governmental responsibility"[13]. Consequently, developing countries, Nigeria inclusive, are more interested in economic development and alleviation of poverty than in pollution or environmental protection.

The Brundtland Commission of 1987[14] identified poverty and international inequality as the major cause and effect of global environmental degradation, and went further to recommend the redistribution of wealth between the North and South, co-

operation amongst states and conscious aid from the North to the impoverished South as some of the avenues for ensuring sustainable development in the world.

Has the North been able to help the South develop in a sustainable manner? No. Efforts have merely been rhetorical without transformation of such into meaningful action. Infact, the North is more interested in maintaining the status quo as evidenced in the outcome of the 1992 United Nations Conference on Environment and Development. Proposals furthering the North's interest but detrimental to the aspirations of the LDCs were the order of the day. Such proposals were aimed at ensuring the perpetual subordination of the South to the North[15].

The international financial institutions primarily serves the interest of the west and have not been able to provide succor either. Babatunde Oduntan noted that the international financial system's "prevailing high interest rates and loans conditionalities implies that even if African states do not borrow anymore, the size of their debt will continue to increase"[16]. This is coupled with the fact that these states are finding it hard to obtain capital needed to step up the pace of development required to. amongst other things, restructure their economies[17].

The only international institution that reasonably committed to environmental protection is the World Bank, which places emphasis on environmental accountability of any of its sponsored programmes/projects[18]. In 1984, the World Bank Office of the environment came out with - The World Bank Environmental Guidelines. The latest of its environmental activities, particularly in Nigeria is the environmental survey of the Niger Delta. This was completed in May 1995 with the publication of its report titled Defining an Environmental Development Strategy for the Niger Delta Vols I & II[19].

The World Bank Environmental survey of the Niger Delta has spurred SPDC, the major operator in the Nigerian oil industry to launch "a major independent environmental

survey of the Niger-Delta"[20]. Also, preparation of an environmental impact assessment study has now become mandatory for all World Bank assisted programmes in the Nigerian oil industry. For instance, the EIA of the proposed World Bank assisted LNG project sited at Finima in Bonny Local Government of Rivers state has been done, and the nearby community of Finima relocated to a new site, far away from the project site[21].

The United Nations Environmental Programme (UNEP) is also environmentally conscious. It is primarily concerned with raising world-wide awareness on environmental issues[22]. Its industry and environment office provides practical information for various industries and governments. It is also involved in the transfer of information that would enhance environmentally sound industrial development through the publication of specific Industrial Technical Reports, Industry and Environment Reviews, Guidelines for Environmental Management of various industry operations. Apart from the "Environmental Management Practices in oil Refineries and Terminal - An Overview", much work has not been done on environmental practices in the oil industry[23].

Environmental Policies in Nigeria

In Nigeria, the various legal provisions for the protection of the environment during crude oil production activities are:

1. The Oil Pipeline Act 1956 and 1965.
2. The Mineral oil Safety Regulations 1963.
3. The Petroleum Regulation 1967.
4. The Oil in Navigable Waters Act No. 34 1968.
5. The Oil in Navigable Waters Regulations 1968.
6. The Petroleum Act (Drilling and Production) 1969.
7. The Associated Gas-Reinjection Act 1973.

8. The Petroleum Drilling and Production/Amendment Regulation 1973.

9. The Petroleum (Drilling and Production) Regulation 1981.

10. The Associated Gas Re-injection (continued flaring of Gas) Regulation 1984[24].

The Petroleum (Drilling and Production) Regulations of 1969 as amended in 1973 and 1981 constitute the most comprehensive legislation on all aspects of crude oil and gas operations. The regulation vested all petroleum resources in the state, provides for the granting of oil exploration licenses, oil prospecting and oil mining leases. Oil companies were granted the absolute right to cut trees, and clear forests, as well as local properties for the construction of necessary facilities such as roads, canals, flowstations, terminals and tankfarms. For the protection of the environment during oil drilling and production activities, the regulation states that:

> *The licensee or leasee shall adopt all practicable precautions including the provision of up-to-date equipment approved by the Director of Petroleum Resources to prevent the pollution of inland waters, rivers, water courses, the territorial waters of Nigeria or fluids or substances which might contaminate the waters of Nigeria or the high seas... and where any such pollution occurs or has occurred, shall take prompt steps to control and, if possible end it*[25].

Also, reference is made to the need for MNOCs to operate in a manner consistent with "good oil field" in a "proper and workmanlike manner". MNOCs are also enjoined to take all steps practicable:

a. To control the flow and to prevent the escape of avoidable waste of petroleum discovered in or obtained from the relevant area.

b. To prevent damage to adjoining petroleum bearing strata, except for the purpose of secondary recovery as authorised by the Director of Petroleum Resources, to prevent the entrance of water through boreholes and wells to petroleum bearing strata.

c. To prevent the escape of petroleum into any water, well, spring, stream, river, lake, reservoir, estuary or harbour, and

d. To cause as little damage as possible to the surface of the relevant areas and to the trees, crops, buildings, structures and other property thereon[26].

Another vital Act was the Associated Gas - Reinjection Act of 1969. As noted in the preceeding chapter, over 75% of associated gas is burnt off through gas flaring. For the MNOCs, flaring of associated gas is more convenient and cheaper than collecting and processing it. In 1979, the Federal Government stipulated that all gas flaring must end by 1984. Subsequently, MNOCs were required to submit detailed plans for the full utilisation of all associated gas produced during oil production operation, and for the reinjection of associated gas that cannot be economically utilised. However by 1984, none of the MNOCs had complied with these regulations, also no penalty was meted out to any of all the defaulting companies. Instead government promulgated other decrees in 1984 and 1985 wherein the 1979 Gas - Reinjection Decree was reviewed and MNOCs were permitted to flare gas during oil production operations subject to payment of specified fine. The MNOCs opted to continue flaring gas and pay (fine), more so when the fee stipulated only U.S. $0.02 for every 28 standard cubic metre of gas flared.

The fact that the nation's gas is not being fully utilised is not only economically wasteful but environmentally unsustainable and thus, the oil industry has not been enhancing sustainable development in Nigeria.

A critical analysis of the major provisions and regulations of oil pollution during MNOCs operations shows that none of the Acts/Regulations stipulate specific monitoring, effluent standard or specific operational modalities for the MNOCs. This was the situation until 1992, when the DPR came up with its National Environmental Guidelines and Standards (NEGAS) for the Oil Industry.

The DPR prior to 1988 was the Petroleum Inspectorate. It is the agency mandated to regulate and enforce the various legislation in the Nigerian Oil Industry. The agency during its existence as the Petroleum Inspectorate, was a sub-sector of the NNPC and as such could not properly function as a regulatory agency for an industry of which it was an integral part. To make up for this limitation and enhance greater efficiency, the Petroleum Inspectorate was transferred from the NNPC group to the Ministry of Petroleum Resources in March 1988. The functions of the agency which was rechristened as the Department of Petroleum Resources include:

1. Overseeing licensees activities in the petroleum industry to ensure compliance with the laws and regulations applicable to the petroleum industry.
2. Ensuring that oil companies generally conduct their operations according to good industry practices and standards[29].

Much as the present DPR is actively involved in regulating MNOCs activities, it nonetheless has not been able to effectively control the companies' activities, especially in the realm of oil pollution and environmental protection. The agency has only been effective in the issuance of licenses and leases. Monitoring has not been easy, as the agency's staff lack up-to-date and sophisticated monitoring equipment. Rather this regulatory organ relies on the goodwill of the MNOCs, whose equipment are used from time to time.

In ensuring that MNOCs generally conduct their operations in a manner consistent with "good oilfield" practices and standards, the DPR NEGAS has come handy and is a reference point for the regulation of environmental protection practices in the Nigerian oil industry. Incorporated into the NEGAS are several international standards and guidelines mainly taken from the United States, Canada and World Bank standards. The NEGAS

stipulates about 104 different standards to be fully met by oil companies with 1996[30] as the target date. Presently, only a few of these standards have been met and even where oil companies flagrantly violate some of the regulations, penalties have seldom been meted out to them.

The NEGAS for instance stipulates that all retention pits must be lined to forestall seeping of spent effluents into the soil. However, this is a stipulation that has hardly been complied with by all the oil multinationals operating in Nigeria, nor enforced by DPR. Retention pits are always unlined and opened, thereby causing pollution of ground water, and constituting snare pits for livestock especially where such are located close to communities like in Rumuola, Obagi and Choba in Rivers state. This has implication for sustainable development as such pits, (which abound in large number in the Niger Delta, actually there are as many retention pits as there are oil wells), not only despoil the environment and pollute ground water, but also turns the many sites and nearby lands into wasteland, unconducive for farming and other sundry activities.

In fact, it is a practice that has become standard with oil operators in the Nigeria oil industry and has subsequently received little or no attention in terms of compliance and enforcement. Generally, DPR's penalties has so far been limited to violation citation to offending companies who are mandated to take appropriate and corrective actions. Continued non adherence is followed by a summon to the Chief Executive of the company concerned who is questioned and given deadline to implement or effect the corrective action(s). In most cases, it is claimed that they do heed such deadline and take necessary action.[31]

In concrete terms, that is as far as the agency have gone in terms of enforcement of regulations. The summary conviction to fine and or imprisonment of the Chief Executive of the violating company is hardly enforced. In fact, conviction to

imprisonment, closure of operating premises, and or revocation of operating license have never been resorted to as an option for enforcement and sanction for violation of regulations

The DPR is highly handicapped by its lack of vital data and record of events in the oil industry. For instance, a request for an up-to-date E.A Study, and oil spill lists could not be honoured, and the researcher was referred to the MNOCs who have individual lists and record of their activities. On a tardy basis, the agency is compiling such lists and records with the assistance of the oil companies.

Perhaps the main reason why the DPR has become a toothless dog derives from the inferiority complex that the agency has to content with in its interaction with the MNOCs. For instance, in a situation where the oil multinationals sponsor DPR staff for overseas training schemes, and pass on other benefits to the agency's officials when on inspection and monitoring tours, and such officials struggle to redeploy to the oil companies due to MNOCs mouth-watering remuneration package, the agency can only treat the MNOCs with awe and gratitude and be slow to react to MNOCs operational malpractices. Notwithstanding the problems which beset the agency in its attempt to regulate the oil industry, the DPR of today is more in control than the Petroleum Inspectorate of the 1970's and 1980's.

Another agency responsible for the protection of the Nigerian environment is the Federal Environmental Protection Agency (FEPA) which came into existence in 1988 in the wake of the dumping of toxic waste in Koko, a small town in Delta state[32]. By December of the same year, the Federal Environmental Protection Decree No. 58 was promulgated. This was to prevent the further importation of toxic waste into the country, and also control other environmental hazards such as oil spillage, flaring of gas, and uncontrolled discharge of industrial wastes. The National Policy on Environment

launched in 1989 was prepared by the Agency. The goal of the policy was hinged on the principle of sustainable development of the nation's resources in fourteen vital sectors, including the petroleum industry[33].

However, between FEPA and DPR there is a struggle for the regulation of environmental standards in the oil industry. On one hand DPR claims that it is specialised in regulating and controlling all activities in the oil industry. On the other hand FEPA claims that the regulation and enforcement of environmental protection regulations in all industries including the oil industry is under its jurisdiction. This situation engendered a measure of dilemma on the part of the MNOCs. Finally, it was the MNOCs themselves that made their preference for DPR known. They argue that the DPR is more experienced, and technically suitable to regulate the oil industry, while FEPA should be a mere supervisory agency[34].

One of the negative impacts of the rivalry between the two agencies is the demise of the bi-annual seminar on the Petroleum Industry and the Nigerian Environment, which prior to 1990 were organised by officials of DPR and Federal Ministry of Works and Housing. FEPA sought to take full control of the programme, with the subsequent 1990 seminar falling below standards, the bi-annual seminar which has served as a reference point and avenue for scholars, companies, administrators and oil producing communities to exchange views, has ceased to exist.

The first major government policy on the development and rehabilitation of the oil producing areas came with the allocation of 1.5 percent of yearly revenue accruable into the Federation Account, for the development and maintenance of infrastructure in the oil bearing communities. Omoweh however noted that the disbursement of this fund was problematic in view of the fact that the oil producing states believed that the fund was meant to develop both oil producing and non oil producing communities in the states[35].

Consequently, less than half of the fund was utilised for the development of the oil producing areas.

With the rising wave of discontent in the Niger Delta, especially in the oil producing communities, the Federal Government promulgated the Oil Mineral Producing Areas Development Commission (OMPADEC) Decree 1992. The objectives of the Commission are amongst others:

a. To receive and administer the monthly sums from the allocation of the Federation Account in accordance with confirmed ratio of oil production in each state:
   i. for the rehabilitation and development of oil mineral producing areas.
   ii. for tackling ecological problems that have arisen from exploration of oil minerals.

b. To determine and identify, through the Commission and the respective oil mineral producing states, the actual oil mineral producing areas and embark on the development of projects properly agreed upon with the local communities of the oil mineral producing areas[36].

To perform the above mentioned functions, the allocated 1.5% from the Federation Account was doubled to 3%. The Commission has laid emphasis on the provision of basic infrastructural facilities such as potable water, electricity, construction of roads and jetties. OMPADEC was able to avoid some of the problems of its predecessor, especially the problems of disbursement and utilization of funds. This it has done by first, identifying and determining the actual oil producing communities, and second, by embarking on projects jointly agreed upon with the various communities[37].

However, one area where the Commission has failed to implement meaningful strategy in compliance with the decree establishing it, is the aspect of "tackling ecological problems that have arisen from the exploration of oil minerals". This is especially pertinent in relation to areas previously impacted on by oil production activities such as the Oloibiri town in Rivers state which has been turned into a wasteland consequent upon the oil production activities of the late 60's and 70's. The Commission has a department of ecological and environmental protection, which is supposed to liaise with MNOCs, federal and state government authorities on matters of environmental protection. Thus, nothing meaningful has come out of this arrangement.

The Commission's existence and activities especially during its first 18 months raised the hope and aspirations of the oil producing communities. However, such hope has since waned, only to be replaced by severe criticisms from various quarters mostly within the oil producing areas. The Commission's critics argued that OMPADEC's performance has deteriorated and become dismally disappointing because most of its projects remain uncompleted and those completed are shoddily done. Also, most of its projects have been described as misplaced priority as it is believed that what the oil producing areas really need is human resources development as opposed to just infrastructural development[38].

Misappropriation of funds has also been identified as one of the problems besetting the Commission. In the words of Claude Ake who also hails from one of the oil producing communities, "if only 10% of the 3% Federation Account" allocation to OMPADEC is actually properly utilised, the oil producing communities would have witnessed remarkable change[39]. Similarly, the award of contracts has been politicised, and indigenes of oil producing communities do not get the large contracts.

More often than not such contractors are neither committed nor sympathetic to the developmental aspirations of the oil producing communities. Rather they prefer to sell

their contracts, whereby the value of the contract is reduced. The projects for which such contracts are awarded are either subsequently abandoned, uncompleted, or in few cases when they are executed, shoddily done[40]. Therefore, OMPADEC has ceased to be the needed succour for the oil producing communities as the confidence reposed in it during its early existence has waned drastically.

Mnocs Response to Government Policies

How have oil multinationals responded to, and complied with the various national environmental laws and policies?

Generally, the compliance status of all the MNOCs in Nigeria has been very low especially prior to 1990. Each company was operating at its own discretion, a situation that was further worsened by the absence of an effective regulatory and enforcement framework.

To this extent, SPDC agrees that previous practices have not been the best and plans to operate differently now and in the future. The company is upgrading operating and maintenance practices which it actualised at Jones Creek in Delta state, setting the "company's standards for the future"[41]. Through the above plan, SPDC hopes to update its equipment and technology as well as adapt all practicable precaution in preventing oil pollution and the degradation of the environment in line with good oilfield practice[42].

Today, SPDC, CNL and EPNL all have functional, and well staffed environmental management units within their individual organisations. These units ensure that right from the onset, their companies abide and comply with environmental policies and standards especially the NEGAS[43]. The NEGAS incorporates provisions on specific operational methods, fixing of reasonable effluent standard and adequate monitoring at all stages of operations.

Compliance efforts of the MNOCs as corroborated by officials of DPR have been substantial especially in the last two years. Each stage of oil production operations is now routinely supervised by staffers of DPR and FEPA, while companies always seek DPR approval, where and when any act contrary to the stipulated practice in the NEGAS is to be embarked on. For instance, SPDC, CNL, EPNL and indeed all oil companies have to apply to DPR for permission to use oil based mud cutting during drilling operations. DPR also has to approve the particular cutting in question[44]. Effluents limits for produced oil wastes are also set by the DPR, the compliance level of the MNOCs in this regard is passable. Effluent limits are monitored on a daily and monthly basis. For the effective control of oil spills during oil production processes, the MNOCs have set up a co-operative oil spill management team known as the Clean Nigeria Associate (CNA). At the onset CNA's equipment kept at the Escravos, Onne and Port Harcourt bases could not be effectively used on land locations. Daniel Omoweh noted this when he argued that CNA's operations have been limited to nearshore and offshore locations because the coalition is incapable of responding to land spills[45]. This situation has changed and CNA has now adapted to responding to spill on any location. For instance, CNA was contracted for the clean up of the Odhiaje spill that occurred on a land location in Rivers state in November 1994[46].

The major grey area where compliance efforts have been very low is in the utilization of associated gas, and reinjection of associated gas that cannot be economically utilised. SPDC, CNL and EPNL all currently flare a substantial amount of the associated gas produced along-side crude oil as the companies plans for gas utilization have not been actualised. Neither are they enthusiastic about reinjecting unutilised associated gas.

No other issue generates much heat and controversy in the oil industry as the issue of adequate compensation for (i) land and (ii) land and people impacted on during oil spill incidences.

In the first instance, the Land Use Act provides that compensation must be paid for any land acquired for the purpose of mining and laying of pipelines. In the second instance, the Minerals Oil Act, prior to its repeal by the Petroleum Act, provides for the payment of compensation for damage to buildings, economic trees or crops during oil production activities. The Petroleum Drilling and Production Regulation Decree No 57 specifically states that:

> *The holder of an oil exploration license, oil prospecting lease or mining lease shall..., be liable to pay fair and adequate compensation for the disturbance of surface or other rights to any person who owns, or is in lawful occupation of the licensed or leased land*[47].

This provision makes what is adequate compensation to be whatever is agreed upon by the two parties (companies and communities). To this extent, SPDC maintained that compensation for polluted areas are paid in lieu of the assessed damage to a polluted area by the company in consultation with DPR and affected communities[48]. It however, does not pay compensation in cases where the source of pollution is proven to be through sabotage acts.

Although the compensatory policy of MNOCs has been a subject of intense debate in the recent past, CNL for instance, claimed to pay appropriately valued compensation whenever such is due. CNL has insisted that it paid over₦ 500,000,000 between 1991 and 1993 as compensation to individuals, communities and states whose land and property were adversely affected during CNL oil production activities[49].

Host communities have also received communal compensations in kind in the form of community development projects that had ensured a harmonious relationship

between companies and the communities. In theory, EPNL policy of providing "meaningful development projects" include the initiation of "scholarship schemes, construction of classroom blocks where necessary, the provision of potable water, good road networks and modern farming techniques"[50]. Similarly, CNL maintained that it has a worldwide policy of conducting its business in a socially responsible and ethical manner[51].

Likewise, SPDC has estimated that it spent an estimated|N20 million a year on community friendly projects in its areas of operations. It also claimed that about| N2 million was spent on Ogoniland between 1987 and 1992 contrary to the latter;s allegation of neglect and deprivations[52]. This brings us to the issue of companies-communities relations, communities grievances and their response to government and MNOCs policies, especially where the degradation and devastation of their environment is at stake.

Host Oil Communities Environmental Struggles

> *We either win this war to save our land, or we will be exterminated, because we have nowhere to run to*[53].

The oil producing communities in the Niger Delta have nothing but tales of woe to recount on account of MNOCs oil production activities in their domain. Inspite of the huge benefit accruing to the nation's coffers and those of the operators, "the communities where these oil operations take place have to pay in terms of environmental degradation and drastic changes in socio-economic life of the people"[54].

Vast decimation of forest for oil production activities have deprived the people of the Niger-Delta tracts of land needed for their traditional farming occupation, and lost

cultivable land because of the toxic effect of oil spills. This, accentuated by pollution arising from exploration and exploitation activities have greatly affected fishing activities where most of the streams and rivers from which inhabitants earn their living are coated with crude oil and barren of fish[55].

Another problem is the contamination of streams, rivers and groundwater, sources of drinking water for the greater part of the inhabitants of the Niger-Delta, who lack pipe borne water in their locales. Consumption of such contaminated water has led to various ailments such as diphobia, chromatosa, delirium and coma - all ailments associated with excessive inhalation of carbon-dioxide which is one of the waste products of oil pollution[56]. The exposure of the people to derived waste from the oil industry has engendered a lot of biochemical malfunctioning in the individual living systems, thereby leading to the shortening of the life span of the inhabitants of oil producing areas[57].

Not surprising therefore, there is a wind of discontent blowing across the Niger Delta where the aggrieved populace have become militant and are up-in-arms against the MNOCs as a result of which equipment have been destroyed, workers attacked, and oil production activities disrupted. Such confrontations have been met with armed police intervention leading to bloody duels and sometimes death[58]. However, this has not reduced the determination of the people to continue to fight for their right to a healthy living and environment.

The communities, whose grouse border on neglect and devastation of their environment are particularly infuriated by the fact that the wealth being derived from their land is not used for their welfare[59]. Instead, oil money has "brought skyscrapers, express roads, flyovers, and other physical structures to cities and towns"[60] far from the producing wells. This is in contrast to what obtains in other parts of the world such as in Texas and Alaska where oil bearing states are very wealthy, and devote a major proportion of oil

proceeds to citizens welfare and security programmes.

The communities charges of neglect are closely linked with accusation of political maginalisation, where the Nigerian state legislation denies the people of their right[61]. Of particular mention is the Land Use Act of 1978 which vested the ownership of land in state governments, thereby denying the people of their rights to their land and the subsequent yearly rent accruable to the traditional landowners for MNOCs operations on their land. Also noted is the revenue allocation formula which they claimed discriminates against the oil producing states[62]. This argument is hinged on the fact that only 3.5% of states revenue is allocated under the principle of derivation, while population and social development criteria account for 40% and 15% respectively, subsequently favouring the large and populous non-oil producing states[63].

Prevalent opinion in the Niger-Delta described the arrangement as unjust. They contended that the present revenue allocation formula was occasioned by the fact that nearly the entire crude oil produced in the country comes from the minority areas. Whereas during the pre-oil boom period when the bulk of federal revenue were derived from agricultural products mainly produced by the majority ethnics groups in the country, revenues were mainly shared on the basis of derivation, favouring the states from which the revenues were generated[64]. Subsequently, there has been clamour by the minority states especially Edo, Delta, Rivers, Cross River and Akwa Ibom, all oil producing states belonging to the Southern minorities forum, for greater empowerment, and autonomy to oversee their own affairs[65].

Having autonomy to oversee their own affairs involves being consulted during all stages of oil production activities and having a say in how MNOCs conduct their operations on their land as is obtained in other parts of the world. For instance, in the

United Kingdom during the laying of a pipeline from Stanlow in Cheshire to Mossmoran in Scotland:

> *A painstakingly detailed EIA covered every metre of the route, and each hedge, wall and fence was catalogued and ultimately replaced or rebuilt exactly as it had been before Shell arrived. Elaborate measures were taken to avoid lasting disfiguration and the route was diverted in several places to accommodate environmental concern*[66].

The above situation however is a far cry from what obtains in the oil producing areas of Nigeria where the same company - Shell operates. For instance, the Ogonis insisted that they are not aware of, let alone being consulted over an environmental impact assessment[67]. Similarly, responding on company-community consultation, Owuna Fenibo maintained that the people of Bonny have never been consulted prior to or during any stage of oil production activities[68].

The MNOCs community relations programmes have also been condemned as reactive instead of proactive, always coming when there is need to assuage the anger of the people especially after an oil pollution event[69]. Consequently, oil companies-oil communities relations have not been cordial, and in the recent past have been mostly conflictual. While the MNOCs expect the oil producing communities to be grateful for whatever welfare programmes they have put in place for the people, the oil communities believe that the companies have done little for them when compared with the benefit the companies have reaped from their land.

The expectations of developmental programme by the oil producing communities from the MNOCs have raised the question of who should be responsible for developing the oil producing areas - operating MNOCs or the government? The primary responsibility of developing the oil areas in the views of MNOCs is that of the government, while those of the companies should be secondary[70]. On the other hand, the

communities argued that because the "companies are the government the people see" they must be primarily concerned with developing their areas of operations moreso when they reap a lot of profit from their operations on their host communities land[71].

Another controversy is the question of, how adequate have been the compensations paid especially for destruction of farmlands, fishing materials and other physical infrastructure during oil spills? Omobolaji Adewale noted that there is no comprehensive legal provision on compensation resulting from oil spill and consequently, oil producing communities are at the mercy of the oil companies who decide on what is adequate compensation for polluted land and property[72]. Such compensations paid for deprivations caused by oil pollution are mere pittance, "on which people cannot subsist for even six months and they become frustrated with life"[73].

Even government policies do not provide for a realistic and adequate compensation for oil communities. The rates for payments worked out by government is so ridiculous, that even some MNOCs on their own pay more than what is stipulated[74]. For instance, an hectare of farmland by government rate would attract a compensation of less than ₦10,000. Such ridiculous rates have been abandoned by some MNOCs while most of them still hide under the law to pay the ridiculous government rates[75].

Generally therefore, government policies and attitude have not been favourable enough to guarantee the welfare of the oil producing communities. This situation according to Claude Ake exists because the oil communities do not have the relevant national power to protect their interest in the country[76]. He asserted therefore that, as long as the majority ethnic groups who constitute the backbone of authority in Nigeria are not sympathetic to the oil producing communities grievances, the state's policies would continue to be unfavourable to the aspirations of the oil producing areas. A vivid manifestation of the unsympathetic posture of majority groups to the plight of the oil

producing communities, he explained further, was demonstrated at the constitutional conference of 1995, where the majority ethnic groups - Yoruba and Hausa/Fulani kicked against a 33% derivable revenue sharing formula proposed by the oil producing states delegates[77].

The realisation that redressing the problems of oil producing communities cannot be sought from the state has therefore, made several communities resolve to reshape their destiny, and redress the injustice being perpetuated against them. To this extent, they have embarked on various programmes to stop the impoverishment of their land and lives by MNOCs activities as evidenced by the plight of Oloibiri community in Rivers state, in whose area oil was first discovered in commercial quantity in the country. The town is completely impoverished and its environs turned into a wasteland.

That no community wants to end up like Oloibiri is the driving force behind the actions of the Movement for the Survival of the Ogoni People (MOSOP) whose demands are articulated in the Ogoni Bill of Rights. The Ogonis, under the umbrella of MOSOP, are presently one of the most organised peoples in the country. The movement has greatly raised public awareness to the environmental cost of oil production activities. The state's effort at forcing the community to submission by the use of brute force have not cowed the Ogonis.

No doubt there has been series of state repressive actions against the community especially against the leadership of MOSOP, while there has been misgiving and differing opinions in the rank of the people[78]. Nonetheless the Ogonis have successfully carried out a smear campaign against SPDC and the Nigerian State not only in the country, but also outside, politicised their struggle nationally and internationally with the publication of the Ogoni Bill of Rights, and the communities enlistment as an unrepresented people by the Unrepresented Nations and People's Organisation (UNPO), and stopped further

exploration and exploitation of crude oil in their land, consequently, halting the devastation of their land and impoverishment of their lives[79].

Other oil producing communities have embarked on various strategies to prevent further degradation of their environment. One of these strategies is the formation of viable movements in each community. The focal point of such movement include, representing the interest of individual communities on issues of environmental protection, claims and compensation during oil pollution, and community development. Such movements include: the Ugborodo Community Council of Elders in Ugborodo, Delta state; Bonny Youth Federation in Bonny Town, Rivers state; the Movement for Reparation to Ogbia in Ogbia town, Delta state; Izon Youth Vanguard in Burutu and Bomadi in Delta state.

Demonstrations and disruption of oil companies operations are other strategies embarked on from time to time by aggrieved oil producing communities in the Niger-Delta. For instance in October 1993, youths from the Obagi community in Rivers state ransacked the operational base of EPNL in the area, damaging various equipment and disrupting operations for several days. In May 1994, indigenes of Opuama in Delta state demonstrated against SPDC and CNL, shutting down SPDC's onshore flowstation and one of Chevron's off-shore oil installations[80].

The demands of the communities include provision of basic infrastructural facilities such as electricity, pipe borne water, hospitals, good roads, provision of management employment for their indigenes, and reparation for damages arising from oil exploration activities in their areas; but most importantly, the channeling back to the communities part of the oil proceeds.

In dealing with demonstrations and demands of the communities, the MNOCs have realised that the use of government law enforcement agents cannot effectively guarantee the safety of their staff and the smooth running of their operations. Therefore,

one of the measures being undertaken by the companies is the raising of their community development budgets.

Today in the Niger-Delta, dialogue has gradually replaced the demonstrative actions of 1993 and 1994[81] . Fenibo, stressing the importance of dialogue revealed that the Bonny Youth Federation is currently involved in identifying the needs and grievances of the Bonny people and tabling such before SPDC whenever avenues for consultation open [82]. He concluded that the days when the oil producing communities in the Niger-Delta were docile and gullible, not knowing or bothered about MNOCs environmental degrading activities on their lands are over.

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59. Based on interaction and interview with a wide range of the Niger-Delta inhabitants in Bomu, Obagi, Port Harcourt, Bonny, Ugborodo between April 1994 and September 1995.

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82. Owuna Fenibo, Op. cit.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSION

Summary

The study reveals that while MNOCs oil production activities have made oil industry central to the generation of revenue and foreign exchange for the Nigerian economy, the operational activities of these companies have triggered severe environmental degradation and devastation. However, such large scale environmental devastation and degradation are traceable to the inability of the state to effectively institute strict operational guidelines for controlling MNOCs and ensuring that they pursue strict environmental protection policies.

It has also shown that MNOCs operations in Nigeria have not been consistent with good oilfield practices, for instead of operating within globally accepted standards, MNOCs in Nigeria have taken advantage of Nigeria's inadequate and often contradictory legislation to engage in environmentally unfriendly oil exploitation practices. Although, the MNOCs have improved on their operational practices since the beginning of the decade, present operational practices still fall short of similar practices in their home countries in the developed world.

In assessing MNOCs efforts at preventing and controlling oil pollution and environmental degradation in the Nigerian oil industry, data collected during field trips, and analysed revealed that on the whole, their efforts have been minimal, if not totally

negligible. Where efforts have been made, such as carrying out environmental studies, using up-to-date equipment and effective monitoring of companies' facilities, the MNOCs have been constrained to do so. Also MNOCs in Nigeria have operated for over three decades without paying attention to essential preventive measures until recently when global environmental awareness, national guidelines and standards, and oil producing communities agitations have compelled them to do so.

Similarly, MNOCs efforts at controlling oil pollution have been lackadaisical, especially prior to 1990. Rehabilitation of severely impacted environment after clean-up has never been a priority oil spill response practice by the MNOCs operating in Nigeria.

While it is true as Nwankwo and Dozie, and Ene have observed that the necessary statutory legislation, guidelines and standards regarding environmental protection were inadequate, and a clear cut environmental policy non existent for a long period, the study however reveals a marked improvement of the situation since the 1990s. Today, various legislations, guidelines and standards especially the NEGAS have been put in place to ensure the protection of the environment in the oil industry. Also, the National Policy on the Environment, with sustainable Development as its goal was launched in November 1989. However, that is as far as the positive stories go, for the effective implementation of such provisions have been elusive, where the DPR and FEPA, two agencies with statutory responsibilities to enforce compliance with environmental regulations have proved ineffective. Till date, no MNOC has been challenged or prosecuted for operational malpractices. Infact there is no concrete provision for punishment in the event of a contravention in the NEGAS. This is particularly disheartening because standards, guidelines and legislation, no matter how feasible and appropriate, are of no effects without effective regulation, sanction and consequent enforcement.

DPR's difficulty at effectively regulating the Nigerian oil industry is a manifestation of the state's reluctance to compel the oil multinationals to follow standard oil production practices. The Nigerian state has been a complacent joint venture partner due to its excessive reliance on oil revenues, and on MNOCs for oil production technology. Consequently, the Nigerian state's efforts at wrestling control of the oil industry from the MNOCs have been unsuccessful.

Also inferred, especially from Ake's analysis is that the Nigerian state is nonchallant to oil induced environmental degradation in the oil producing areas, because those at the helm of political affairs mostly belong to the majority tribes. Since, the bulk of Nigerian oil is produced in the minority areas in the Niger Delta region, successive governments have not been sympathetic to their deprivations.

Recommendations

The study has shown that MNOCs oil production activities have not been compatible with environmental sustainability. There is therefore the need for the MNOCs to conduct their operations in a manner that will minimally affect the ecological system of their host communities environment in Nigeria. To this extent, they must:

1. Recognise and make provision for the social and environmental effects of a project right from the planning stage to the implementation stage.
2. Take proactive measures in ensuring that the environment is protected by placing due emphasis on prevention of pollution; and in the introduction of community development programmes in host oil producing communities which have hitherto been reactive, coming in the wake of protests and demonstrations.
3. Improve on clean up technology, response time and the rehabilitation and restoration of affected people and the environment.

4. As a matter of necessity, recognise the need to constantly consult and dialogue with their host communities, and incorporate them into their environmental protection programmes.

Events in the newly industrialising states in Asia have shown that by and large, indices of governance like; political will, transparency and accountability determine the attitude and practices of MNOCs. The state must therefore pursue its developmental policies with more vigour than it has displayed in the recent past. Economic viability is essential but this can only be achieved when the economy is diversified rather than made reliant on mono export. And, as a matter of expediency the state must intensify its indigenisation of oil technology efforts before it can effectively take control of the oil industry[1].

Most importantly, the state has been complacent in the area of environmental protection and regulation. To reverse this trend, the state must be more committed to:

1. The protection of its environment and provision of infrastructural facilities and manpower development of its regulatory agencies.
2. The incorporation of provisions that will protect the interests and rights of the oil-bearing communities in statutory legislation and, MNOCs contractual agreements.
3. Ploughing back substantial oil proceed for the rehabilitation of the oil producing areas and regularly auditing the activities of the agency responsible to ensure that such resources are utilised for the purpose they are meant for.
4. Effective coordination of the responsibilities of seemingly disparate regulatory agencies, particularly FEPA and DPR.

Financial institutions and donor countries can also help in ensuring environmental sustainability in the oil industry by including environmental accountability in conditionalities tied to loan and aids given for projects in the Nigerian oil industry.

Conclusion

This research has attempted to examine the impact and consequences of MNOCs activities on the environment and people of the Niger Delta in Nigeria. It was also carried out to determine the extent to which the MNOCs have adhered to international and national guidelines on good oilfield practice, and their efforts at the prevention and control of oil pollution, and the rehabilitation of severely polluted environment.

The findings, as summarised in this chapter supports our working assumption that MNOCs activities in the Nigerian oil industry have been environmentally unsustainable because of the inadequacy of domestic legislation regarding environmental protection, excessive state reliance on oil revenues, and the inadequacy of technical know how to monitor effectively the operations of the MNOCs operating in Nigeria.

In conclusion, various measures were recommended and they border on the need for the Nigerian state and the MNOCs to be more committed to the preservation of a healthy environment in the Niger-Delta. In doing this, the state and oil companies must critically assess the environmental impact of their decisions alongside the imperatives of maximizing profit and generating revenue. However, the burden for this responsibility cannot be evenly borne. The state must constitute the leading edge of the endeavour which is desired to ensure mininal damage to the environment in the oil producing areas.

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