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# Imperatives for the Amendment of the Nigerian Oil Pipelines Act

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***Author's contribution***

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## ABSTRACT

Pipelines have been recognized to be one of the most effective means of transportation in any oil producing state. It however has its technicalities, hence the provision of regulations and guidelines for their operation. Nigeria as an oil producing state has been operating with pipelines for many years now, but in all ramifications it has not had the best and efficient oil pipeline system. This research work was as a result of the failure of the Oil Pipelines Act and its subsidiary Regulation, Guidelines and Procedure for the Construction, Operation and Maintenance of Oil and Gas Pipelines and their Ancillary Facilities, to create for an effective pipeline operation. This research applied a doctrinal type of methodology and adopted an analytical, comparative and descriptive approach. It was found that the problem with the Nigerian Oil Pipelines Act, is that it is outdated. The Act has been in existence for more than 50 years; and because of this, it cannot meet the current needs and trends in the country. Some of the needs are: meeting up with Technological Advancements, Managerial and maintenance skills, Environmental Protection, Efficiency in transportation and Security issues. More importantly it cannot take care of the current exigenecies in the country with regard to transportation of oil. This research has offered some recommendations to improve the oil pipeline system. Some of which includes a proper creation for an effective monitoring system. This should be done by qualified personnel and also with the use of advanced technology obtainable in some countries like the US. This advanced technological monitoring system will not only report any vandalization, but will also indicate when there is need for maintenance especially pipeline corrosion. There should be more creation of oil and gas pipelines in all the cities to

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discourage transportation of petroleum products through tanker which over the years have been the cause of so many road accidents and fire outbreaks. There should be an improvement on the types of pipelines operated; this should include new age pipelines. These problems associated with the Oil Pipelines Act necessitated the call for its amendment.

*Keywords: Amendment; Nigeria; pipelines; oil; gas; transportation; act; regulations.*

## 1. INTRODUCTION

The history of oil pipelines dates back to 1863 and 1920s when the first pump-operated petroleum was built in the United States of America and the petroleum lines for transportation respectively, as was reported by Henry and Miller in 1977. They also stated that by 1960 the pipelines had increased to over 300,000 kilometers. Since then, its expansion has been quite tremendous by virtue of the fact that petroleum became the major source of energy worldwide hence the increase in demand. Here in Nigeria, the Federal Government followed suit [1]. In line with the recommendation of Oputa's Panel of Inquiry of 1975 began to import petroleum products into the country. It also started refining and production and construction of storage facilities. The need for storage facilities and transportation of the products led to the construction of pipelines. The Kaduna refinery was built in 1980, Warri in 1987 while Port Harcourt refinery was built in 1989. The phases1 and 11 of the pipelines were built and commissioned in 1979. With the increase in petroleum product demand across the nation, the need for inter connectivity between the various depots for efficiency and productivity made the phase 111 project of pipeline mandatory. It was built and commissioned in 1991.

## 2. TYPES OF OIL PIPELINES

There are various types of pipelines [2]. The two major types are the crude oil pipeline and product pipeline. The crude oil pipeline carries the oil (ie crude oil in its natural state containing largely hydrocarbons which comprises of oil and gas) to the refineries [3]. The product pipeline on the other hand transports the finished products which are gasoline, kerosene, jet fuel heating oil etc to the market. The mode of transportation can be changed or switched between the two types in a well controlled environment. The United States of America have variants of oil pipelines constructed to serve different purposes in the industry [4].

### 2.1 Gas Pipelines

The gas referred to here is different from the gas referred to under crude oil pipeline. Here the gas is natural gas ie gas in its natural state. Natural gas is unique in its own respect in term of form and mode of carriage. It poses more danger to transport gas through the conventional way such as trucks, train etc. Due to its high inflammable nature, natural gas has a particular temperature that must be maintained before transportation. The United States uses a specialized pipes in order to contain its risks [5].

### 2.2 Effects of Oil Pipelines

The laying of oil pipelines no doubt has its attendant positive and negative effects. In terms of the positive side it helps in easy transportation with measurable contribution to national development. On the other hand its *negativeness* is appreciated in the manner of its installation, routes and nature of the area and towns. This in turn leads to adverse effects on the socio-economic life of the area [6]. Mostly, the pipes are laid across rivers, creeks, farmlands etc in the Niger Delta. It is pertinent to note here that most inhabitants of the Niger Delta people and the natives are farmers. Thus these pipes must of necessity pass through their lands and rivers. For example, the Shell Petroleum Development Company has a 95 km line that runs through a large number of towns, creeks, field, as a matter of fact it traversed through thirty five communities, sixty rivers and creeks of various sizes. Besides the Niger Delta Regions the oil and gas pipelines also transport products to storage depots in commercial cities amidst beehive of activities. There are about fourteen cities involved here and with the increase in associated gas programme at Bonny which added two other centres.

Furthermore, the oil pipelines had in no small measure contributed to environmental degradation. This is quite evident in the near destruction of the mangroves of the Niger Delta Region, the oil spillages which results from storage facilities with its resultant pollution of the

area, the habitat area and the natural populations have been somewhat reduced, death and dearth of certain species as a result distort to a large extent the natural settings of the environment [7]. The incessant oil spillages in the Niger Delta Region had led to environmental degradation. The adverse effect of oil pipelines can be in the destruction of the seabed during installation of the pipeline, spillage from the pipes pollute the water courses, vandalization and explosion destroy lives (both human and animals) and properties etc. The negative effects of the installation of the oil pipelines are also adversely felt in relation to payment of compensation to victims of oil spill, pollution and environmental degradation. The Nigerian National Petroleum Corporation in 1977 paid compensation in respect of lands acquired by them for their projects including pipelines. This issue of compensation for land was removed by the Land Use Decree of 1978 wherein compensation was only paid for economic trees and structures. The host communities vehemently opposed the new move consequent upon which the foundation for the Niger Delta Region Youth restiveness was laid [8].

## 2.3 Examination of the Nigerian Oil Pipelines Act

The Federal Government in order to lay a solid foundation for the exploration and production of crude oil adopted certain legal framework to monitor and control the activities of oil multinationals. One of such policy framework was the establishment of the 1963 Oil Pipeline Act to effectively monitor the extraction and production of petroleum products by all oil companies in Nigeria. The main reason for the promulgation of the Oil Pipeline Act was to make provision for licenses granted to be issued for the establishment and maintenance of pipelines incidental and supplementary to oil fields and oil mining, and for purposes ancillary to such pipelines [9]. This explains that the Act, at the time it was promulgated, was not meant to prevent the environmental pollution and degradation of other natural resources in Nigeria, but to lay down in law that these pipelines were legal and should not be violated by others. However, notwithstanding, there are important provisions of the Act that is worth retaining.

## 2.4 Oil Pipelines Act and Environmental Sanitation

Nigeria has been known to be very rich in oil and other minerals. It is ranked to be about the 8$^{th}$ largest producer of oil in the world. Thus it is a major player in the international oil market. Oil here refers to both oil and gas. Her natural gas reserve is also held in abundance as it runs in trillions [10]. This explains why pipelines are an integral part of the oil and gas industry. It is the major mode of transportation, marketing and supply of oil and gas the world over. In Nigeria it is also used for transportation and marketing of petroleum products. Oil pipelines are a special type of structural engineering which requires governments special attention especially as its use affects the communities around them. Pipeline routes are sensitive because they carry combustible substances. They also require special maintenance and monitoring. In the absence of all these the pipes are left or abandoned to the detriment of the communities [11]. The corrosion and the wear and tear that accompanies the abandonment adversely affect the environment. When there happened an environmental degradation, the communities affected are left at their own mercies. Justice demands some sort of compensation even though restituo integrum may not be achieved but in the eyes of justice equity would have been seen to be served irrespective of the level [12]. But as stated earlier since the advent of the Land Use Act things changed for such victims. Consequently, the host communities who are at the receiving end of the hazardous act decided to take their fate in their hands. The resultant effect of their decision was the vandalization of the pipelines and other oil installations.

## 2.5 Oil Pipelines Act in Relation to Compensation Payable in Event of Damage as a Result of Pollution

The Act requires the holder of oil pipeline license in Section 6 of the Act [13] to seek first had and obtained the approval of the owner of the land or whoever is in occupation before entering the land.

**The Section provides as follows:**

1. Except with the previous consent of the owner or occupier no person shall under the authority of section 5 of this Act enter any building or upon any enclosed court or garden attached to any building, without having given the owner or occupier at least fourteen days' notice of his intention to do so, nor enter upon any cultivated land without having given such notice to the owners or occupiers thereof or having

affixed some prominent position upon such land.
2. No person shall under the authority of section 5 of this Act enter any of the lands described in section 15 of this Act except with the prior assent of the owners or occupiers or persons in charge of such lands.
3. The holder of a permit to survey acting under the authority of section 5 of this Act shall take all reasonable steps to avoid unnecessary damage to any land entered upon and any buildings, crops or profitable trees thereon, shall make compensation to the owners or occupiers for any damage done under such authority and not made good.
4. In the event of dispute as to the amount of compensation to be paid as to whether or to whom any compensation shall be paid the provision of Part IV of this Act shall apply.

Although Nigeria has a number of Statutes that provide for compensation in matters relating to land or landed property acquisition, only the Oil Pipelines Act Cap145, LFN, 1990 contains provisions that are directly related to compensation arising from oil spillage. Other statutes such as the Land Use Act (1978), Minerals Act Cap 121 of 1946, and Petroleum Act No. 51 of 1969 now Cap 350 LFN 1990, Mining Act No 24 of 1990, Oil in Navigational Water Act, Cap 337 LFN 1990 (all consolidated in the latest Laws of Nigeria (LFN, 2010), make only tangential reference to compensation for oil spillage as they deal primarily with acquisition rather than injurious affection. The latter does not transfer interest in land in any way. Section 11(5) provides that the holder of a 1icence shall pay compensation to the victims of environmental degradation and destruction resulting from spillages from pipelines, pollution etc [14].

Damages arising from sabotage and malicious acts of third parties are exempted. Section 11 of the Act further provides that where the amount of such compensation cannot be agreed between any such person and the licensee, it shall be fixed by a court in accordance with the relevant section of the Act. According to Section 20 of the Act, the court may award such compensation as it considers just, having regards to:

1. Any damage done to any buildings, crops, or profitable trees by the holder of the license;
2. Any disturbance caused by the holder the exercise of such right;
3. Any damage suffered by any person as a consequence of any breakage of or leakage from the pipeline or an ancillary installation and
4. Loss (if any) in value of the land or interests in land by reason of the exercise as aforesaid.

Furthermore, Section 20 (3) provides that in determining the loss in value of land and or interest in land of a claimant, the court shall assess the value of the land or the interest injuriously affected at the (time immediately before the grant of the license and shall access the residual value of the claimant of the same land of interest consequent upon and at the (time of the grant of the license and shall determine the loss suffered by the claimant as the difference between the values so found, if such residual value is a lesser sum. Compensation shall not be awarded for any land according to the Land Use Act that are not under anyone's occupation, with the only exception being that provided in the Act in Section 20(4).

Section 20(5) of the Act stipulates that in determining compensation in accordance with the provisions of this Section, the court shall apply the provisions of the Land Use Act as far as they are applicable and not in conflict with anything in the Act as if the land or interests concerned were land or interests acquired by the President for a public purpose. *In Shell* Petroleum Development Company vs. H.B.F.M C.S Ltd. (2002) 1 W.R.N. page*37* the court confirmed the exclusive jurisdiction of the Federal High Court to entertainclaims pertaining to upstream [15] and downstream [16] oil operation and in particular, oil spillage.

**Other highlights of the Act that needs further clarification are as follows:**

Ownership, Organizational and Regulatory Framework In Relation To Transportation Pipelines and Associated Infrastructure (Such As Natural Gas Processing and Storage Facilities).

The Nigerian pipeline network is currently unintegrated. The principal transportation pipelines, gas-processing facilities and other associated infrastructure are currently either owned by individual upstream gas producers and are dedicated to their respective operations or owned by the NGC.

In order to promote flexible deployment of gas to the domestic market and for export, the Ministry of Petroleum Resources came up with an Infrastructure Blueprint, which includes a network of gas hubs, which will comprise of secondary gas-gathering facilities from designated nodes of the upstream gas producers to a network of gas-processing facilities, where gas will be processed to a national specification and evacuated via transmission pipelines. Under this framework, transportation pipelines, from the well heads to the designated nodes, will be owned and operated by the gas producers, while pipelines for the transportation of gas from the designated nodes to the transmission pipelines will be owned and operated by the hub operator.

The Oil Pipelines Act and the Oil and Gas Pipelines Regulations in particular, regulate the survey of routes, construction, operation and maintenance of oil and gas pipelines and associated infrastructure [17].

Governmental Authorizations (including Any Applicable Environmental Authorizations) are Required to Construct and Operate Oil and Natural Gas Transportation Pipelines and Associated Infrastructure.

The Pipelines Act and the oil and gas pipeline regulations bestow on the Minister the power to grant permits to survey routes for oil and gas pipelines and also licenses to construct, maintain and operate oil pipelines. The relevant license also confers the right to construct, maintain and operate installations that are ancillary to the construction, maintenance and operation of such pipeline, such as pumping stations, storage tanks and loading terminals [18]. A license to construct and operate a refinery issued under the Petroleum Act is required to construct and operate gas- processing facilities. An Environmental Impact Assessment approved by the FMoE is required for the construction and operation of any natural gas transportation and storage facilities.

**In general, how does an entity obtain the necessary land (or other) rights to construct oil and natural gas transportation pipelines or associated infrastructure? Do Government authorities have any powers of compulsory acquisition to facilitate land access?**

By virtue of Nigerian Land Use Act, the use of land for the construction of gas pipelines may be regarded as constituting use for an overriding public interest for which the Government may compulsorily acquire land [19]. Therefore, such acquisition is subject to the payment of compensation to the owner/occupier of the land [20].

The right to use land for the purposes of a gas pipeline is inherent in the grant of an oil pipeline license as the license confers on the holder the right to enter upon, take possession of, or use a strip of land of such width as may be specified in the license upon the route specified in the license.

**How is access to oil and natural gas transportation pipelines and associated infrastructure organized?**

An application to the Minister of Petroleum Resources must be made for third-party access to oil and natural gas transportation pipelines and associated infrastructure. The Minister would then consider the application, during which time he will have to meet with the applicant and the owner of the pipeline. The Minister would grant the application if satisfied that the pipeline can conveniently convey the substance which the applicant desires to convey. The terms and conditions of access are to be determined by agreement between the parties and failing, such agreement shall be determined by the Minister. The Minister may impose such requirements as he thinks necessary for the purpose of securing the access right of the applicant and regulating the access charge.

**To what degree are oil and natural gas transportation pipelines integrated or interconnected, and how is co-operation between different transportation systems established and regulated?**

The transportation pipelines are currently not interconnected. However, further to the Gas Master Plan and Infrastructure Blue Print, there are ongoing projects for the purpose of integrating the pipelines network in Nigeria which has reached an advanced stage.

## 3. CONCLUSION

It is without doubt that Nigeria has good laws on oil pipelines. However there are a few lapses in the instant laws on oil and gas pipelines. In this study it was shown that to properly understand the efficiency of the Oil Pipeline Act and its Subsidiary Regulation, there should be a careful

study of how the pipelines work in the present. In examination of the present oil pipeline system, one will discover that the Act did not extensively cover the operations of oil pipeline. This study has shown that the laws on oil and gas pipelines did not cover the issue of environmental pollution as it ought to as in other countries.

On the environmental impact on the Niger Delta regions it is hereby submitted that the wear and tear on the pipelines which often result in rupture and failures are more in some states than in others in the Niger Delta Regions. Secondly, the extent/quantum of damage in this region is far more than what we find in the western countries. Consequently, there is still need for some amendment to the Oil Pipelines Act more especially with regard to transportation of oil by road. Most countries rich in oil no longer transport oil through road at least to a large extent. With the incessant accident of tankers carrying petroleum products on our roads, the fire outbreak from such accident, the death toll that emanate from such scenario and the destruction of properties and valuables of people calls for a rearrangement and regulation. Unfortunately the Act is silent on this issue. It calls for a quick legislative action. Better still the oil and gas transportation should be transferred to the Ministry of transport for an effective implementation. If this is in place the menace caused by the tankers in the major commercial cities will be put to a halt as pipelines will be piped directly to the major stations at the least.

## 4. RECOMMENDATIONS

In the course of the recommendation, some lapses in the Act will be examined. The following are the recommendations which are the imperatives for the amendment of the Nigerian Oil Pipelines Act.

**On the name of the act:** There is need to change the name of the Act regulating oil Pipelines in Nigeria. Instead of Oil Pipelines Act, it should read Oil and Gas pipelines Act. This is because the Act not only regulates oil pipelines but also Gas Pipelines.

**On the age of the act:** The Oil Pipelines Act has been in existence for more that forty years now. Of course it would not be able to meet up with the current situations in the country. There have been various forms of development, laws, change in public policy, change in economy, change in environment, etc. since then. Therefore this calls for an amendment or at the least a review of the Act.

**On the changing needs of a pipeline system:** The conflict for operators is that there is an expectation that their pipelines will be required tonot only continue safely and economically into the future, but also be able to carry greater loads. There are general moves in many countries to raise allowable operating pressures), or differing fluids (e.g. from natural gas to liquefied natural gas. This leads to the following future issues, needs and improvements:

- Corrosion, corrosion monitoring, and corrosion failure models; [21]
- Investigations into 'time dependent' deterioration mechanisms in transmission systems;
- Damage detection, behaviour, mitigation and prevention;
- Leak detection (improve current methods, introduce new methods), mitigation and control;
- Pipeline awareness programmes (e.g. improved 'one call' systems)
- Emergency planning and procedures;
- Risk assessment and management and data management;
- Abandonment, rehabilitation and repair;
- Security of pipelines against terrorism pipeline surveillance (ground, air, space), pipeline Inspection (external, internal); (structural, communications, cyberspace);
- Alternative/future uses of transmission system (hydrogen, carbon dioxide, etc.);
- Impact of liquefied natural gas imports on gas transmission system;
- Impact of increased demand on transmission systems;
- Impact of differing imported oils and gases on the transmission systems, and its effect on storage needs; etc.

**On the Protection of the Niger Delta Regions:** The following recommendations should be well integrated in the Proposed Oil and Gas Pipelines Act.

1. Among the NDs, River State, with 0.8% of total pipeline kilometers had the highest pipeline failure rate during the period of the analysis. Akwa-Ibom and Cross-River States had the lowest failure rates, with 3.4% and 9.8% of total pipeline kilometers respectively. These variations could be

due to a number of factors, including the following: Differences in the ages of pipelines; Differences in environmental, climatic, geological, and soil conditions and their effects on pipelines and pipeline routing; Differences in construction standards; implementation of contingency plans; and in reporting thresholds for oil spill events. These factors should be reviewed in greater detail so as to establish more precisely the parameters that would explain the differences in failure rate.

2. There should be an effective regulatory and monitoring mechanism for oil pipeline operation in the country.
3. External corrosion can be tackled by improved coatings and cathodic protection e.g. use of polyethylene and multilayer coatings have longer life. Early detection of coating degradation is an important strategy and pipes should be subjected to hydrostatic testing.
4. Internal corrosion can be prevented by dehydration of gases and periodic pigging of lines to remove accumulated water and deposits.

**Compensation:** Today, in spite of the positive impact of oil companies to catchment communities, the level of negative impact on the natural ecosystem and community livelihood outweigh the positive impact. Besides, the level of compensation from the tested hypotheses show that much is still needed to be done to enforce compensation by the oil companies to catchment communities. To this end, this study recommends the following that would enhance compensation to oil communities:

1. The government should ensure strict compliance to the Compensation Act of the Federal Republic of Nigeria as it concern oil producing communities
2. The government should set up a task force that would monitor oil companies as regards tocompensation to communities.

**On Transportation of Oil and Gas products:**

1. The available pipeline transport should be adequately utilized for the distribution of petroleum products and more pipeline network should be constructed to link major cities across the country for easy distribution.
2. Where pipeline transport network is yet to get to, rail transport can be used as an alternative mode because it is relatively cheaper in terms of transportation cost compared to road while road transport will complement rail and pipeline transport and more operational infrastructure such as tanks, wagons and locomotives should be made available for rail transport for effective distribution.
3. Sufficient security personnel should be employed to secure pipeline to reduce the major challenge of pipeline transport which is vandalization. The use of computers and communication technologies to monitor and control pipeline operations should be encouraged. More petroleum depots should be made available at strategic locations across states to reduce pressure on the refinery for easy distribution at a minimized cost and to meet up with the increasing demand. The incorporation of Ullman's theory of spatial interaction may be useful.
4. Oil pipelines should be extensively distributed across the nation. Major commercial cities should have pipelines piped directly to major stations, depots and distribution centers. The Distribution and Regulation Act should be amended to regulate this.
5. Petroleum product road tankers should be involved for relatively very short distance within cities, for example, from available depot to the selling points (filling stations), where consumers will have easy access at a minimized cost and roads should be properly maintained to aid fast and ease distribution of the products.
6. Education plays a very important role in the performance and attitudes of tanker drivers on the road. Tanker drivers should be trained and re-trained in Transport Technology Centre of NITT to better their driving skills and attitudes on the road.

**On some Sections of the Act that Need Correction or Removal:** Fees provided in the Act

**Section 31:**

1. The applicant for a permit to survey shall pay a fee of twenty naira upon submitting his application, and a fee of fifty naira upon the grant of such permit.

2. The applicant for a licence shall pay a fee of fifty naira upon submitting his application and a fee of two hundred naira upon the grant of such licence.
3. The holder of a permit shall pay a fee of fifty naira in respect of each variation of such permit.
4. The holder of a licence shall pay a fee of two hundred naira in respect of each variation of such licence.
5. An annual fee shall be paid on each licence of twenty naira per mile of the length ofthepipeline subject to a minimum of two hundred naira.
6. The holder of a licence shall pay a fee of one hundred naira upon submitting his application for a restriction order under section 12 of this Act, and a fee of such amount as the Minister may determine not exceeding four hundred naira on such order being made.

The fees prescribed in this section is ridiculous and could not be seen to meet the current economic situation of Nigeria, therefore it needs to be reviewed higher.

**On Powers of the Minister:**

**Section 33:**

**The Minister may by regulation prescribe:**

1. The manner in which any application in accordance with the provisions of this Act shall be made and the forms to be used;
2. The manner in which the holders of exclusive prospecting licenses, mining rights and mining leases granted under the Minerals Act or a license granted under the Nigerian Coal Corporation Act or licenses or leases granted under the Mineral Act may operate over an area subject to an oil pipeline license and the manner in which the area covered by an oil pipeline license may infringe on the area subject to an exclusive prospecting license, mining right or mining lease or other license or lease so granted;
3. Measures in respect of public safety, the avoidance of interference with works of public utility in, over and under any land and the prevention of pollution of any land or water;
4. Such matters relating to the construction maintenance and operation of oil pipelines as the Minister considers it necessary or appropriate to prescribe;
5. Generally for carrying into effect the purposes and provisions of this Act.

The minister has been given some sensitive powers on the regulation of oil and gas pipelines in Nigeria. We have seen that the main regulation on the management of the oil and gas is provided in the Guideline from the Department of Petroleum Resources which is headed by the Minister. This concentration of power can be detrimental in cases where the Minster does not have capable qualities and qualification for such position. It will therefore mean that whatever regulation he gives is what will be law and nothing can be done about it. It is therefore suggested that a careful and detailed regulation be drafted with observance of other countries to ascertain the best practice and this regulation be integrated in the Act and not left with only the Minister. This should be done in such a way as to encourage not only the petroleum officers to sue a person in default but also affected individuals too. So that when the Department of Petroleum Resources are not efficient enough, private individuals can help uphold the Law.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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