A CRITIQUE OF THE LEGAL FRAMEWORK FOR THE DEVELOPMENT OF MARGINAL OIL FIELDS IN NIGERIA*

Abstract

Marginal oil field development was introduced in Nigeria with the objectives of increasing indigenous participation in the upstream petroleum sector and increasing the national petroleum production capacity amongst others. Twenty-four (24) of the identified 116 marginal fields were awarded to 31 indigenous companies in 2003. In 2017, the Federal Government announced her readiness to carry out a new round of licensing bid. It is against this background that this work seeks to examine the successful factors and challenges of marginal oil field development in Nigeria. The basic question is, to what extent has the objectives for its introduction been achieved? It is sad to know that the development of marginal oil field is lagging or has not been fully successful, despite the policy initiative by the Federal Government of Nigeria. Only nine of the fields are producing as many of the marginal field operators are battling with funding, social, political, environmental and technical challenges. The paper proffers solutions to the identified challenges and concludes that if the government is serious about fully achieving the objectives of the introduction of marginal oil field development in Nigeria, there should be adequate support to marginal field operators towards the development of the fields.

Key Words: "Marginal Oil Field", "International Oil Companies", "Department of Petroleum Resources"

1. Introduction

The international oil companies (IOCs) have a number of fields that they left undeveloped and unattended owing to their uneconomical value. These fields lie fallow for a number of years without being beneficial either to the parties or to the country at large; thereby hindering the development and production of oil and gas

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and affecting the economy adversely.[1] However, the Department of Petroleum Resources (DPR) of the Ministry of Petroleum Resources believes that these fields may be profitable under a different set of circumstances, provided all the variables that affect field development are taken into consideration and carefully balanced in order to ensure the profitability of the project.[2] A total of 116 of such fields with collective reserves of about 1.3 billion barrels were identified by the Federal Government after a study that ended in December 2000.

Today, there are about 251 marginal fields in Nigeria with an estimated 2.3 billion barrels of proven recoverable oil reserves. Marginal oil fields in Nigeria are scattered in the oil producing states in the Niger Delta Area.[3] The first marginal oil field to be farmed-out in the country was between NNPC/Chevron and the Niger Delta Petroleum Resources Limited (an indigenous company) respecting the Ogbelle field in OML 54 (located in Rivers State's up-land area) in 1994.[4] In 2003, twenty-four (24) marginal fields containing about 300 million barrels of crude oil were awarded to 31 Nigerian companies, [5] over which 60 percent of these fields are said to be onshore.[6] The twenty-four marginal fields which were available for bidding were in the concessions held by the NNPC joint venture with Chevron, Texaco, Elf Petroleum, Nigeria Agip Oil Company LTD and Shell Petroleum Development Company of Nigeria LTD, that is to say, the NNPC joint venture with Elf, Agip and Shell that is operated by Shell. As expected, all the winners were indigenous companies, including some owned by the Governments of Akwa Ibom, Bayelsa, Delta and Rivers States.[7] In 2006 and 2007 respectively, the Federal Government discretionarily awarded two fields to Orient Energy to compensate the company for losing part of OML 115 to Equatorial Guinea following a boundary adjustment exercise between Nigeria and Equatorial Guinea.[8] Also in 2010, three fields were awarded on discretionary basis to All Grace Energy, Green Energy International and Niger Delta Petroleum Ltd respectively. [9] In 2013, the Federal Government announcement the second licensing round for 31 marginal oil fields in Nigeria.[10] Giving details of the licensing round, the then Minister of Petroleum Resources, Mrs. Alison-Madueke stated that a total of 31 fields are on offer with sixteen (16) of them located onshore, while the remaining fifteen (15) are in the continental shelf.[11] The Department of Petroleum Resources also released the guidelines for the award.[12] It was quite unfortunate that the bid never took place.

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1 L Atsegbua ; *Oil and Gas Law in Nigeria: Theory and Practice* (3rd edn, Benin-City: Fifers Lane Publishers, 2012) p.379.

2 *Ibid* at p.374.

3 M Shosanya, 'The Challenge of Exploiting Nigeria's Marginal Oil Field' (24 February 2013) Daily Trust <www.dailytrust.com.ng/news/business/the-challenge-of-exploiting-nigeria-s-marginal-oil-fields/95796.html> accessed 4 August 2019.

4 G Etikerentse, *Nigerian Petroleum Law* (2nd edn, Lagos: Dredew Publishers, 2004) p. 101.

5 The Award was regulated by the 2001 Guidelines for Farm-out and Operation of Marginal Fields issued by the Office of the Presidential Adviser on Petroleum and Energy.

6 M Shosanya (n 3).

7 G Etikerentse (n 4)p.101.

8 E Alike; 'F.G Sets Bid Round Guidelines for Award of 46 Marginal Oil Fields' (18 September 2017) This day <www.thisdaylive.com/index.php/2017/09/18/fg-sets-bid-round-guidelines-for-award-of-46-marginal-oil-fields/> accessed 10 June 2019.

9 *Ibid*.

10 C Nwaozuzu; 'Marginal Oil Field Development in Nigeria: Status, Constraints, Prospects & Way Forward' (18 May 2014) *Energy Mix Report* <http://energymixreport.com/marginal-oil-fields-development-in-nigeria-status-constraints-prospects-way-forward/ >accessed 8 August 2019.

11 NNPC 'FG Kicks Off Second Marginal Fields Bid Round Assures of Transparency and Accountability in Bid Process' www.nnpcgroup.com/publicRelations/NNPCinthenews/tabid/92/articletype/articled/479/FG-kicks-off-Second-Marginal-Fields-Bid-Round-Assured-of-Transparency-and-Accountability-in-Bid-Process.aspx accessed 25 July 2019.

12 Guidelines for Farm-out and Operation of Marginal Fields 2013 Issued by the Department of Petroleum Resources.

More recently, in 2017, the Federal Government announced her readiness to carry out a new round of licensing bid.[13] This work therefore seeks to explore the success factors and challenges of marginal oil fields in Nigeria. The basic question answered in this work is; to what extent has the objectives for the introduction of marginal oil field development in Nigeria been achieved? The paper is structured into seven parts including this introductory section. The second section defines marginal oil field development. The third examines the legal framework of marginal oil field development in Nigeria. The fourth outlined the objectives of marginal oil field development in Nigeria. The fifth assesses the development of marginal oil field in Nigeria. The sixth analyzed the challenges of marginal oil field development in Nigeria and the seventh is conclusion.

2. Definition of Marginal Oil Field

There are as many definitions of the term 'marginal oil field' as there are many operators and countries producing oil and gas.[14] The definition of a marginal field is very much contextual, and dependent on a number of technical, commercial and regulatory factors, including reservoir characteristics, lack of infrastructure, and prohibitive development costs.[15] Marginal fields are defined as oil discoveries whose production, for whatever reason(s) fails to match the desired or established rates-of-return of the leaseholder.[16] Bassey Udo opined that marginal oil fields are either low producing or non-producing fields that are held by the multinational oil companies and are reaching the end of their commercial life.[17]

The Nigerian Association of Petroleum Explorationist (NAPE) defines marginal fields as, "non-producing fields whose economics is not considered robust enough using conventional development methods under the prevailing fiscal regime".[18] Nwaozuzu defines marginal field as "a field which due to prevailing geologic, geographic, economic and technological constraints may not be considered to be cost effective for development by its owners, but the development of which may be profitable under different or changed set of circumstances.[19] In other terms marginal field refers to an oil field that may not produce enough net income to make it worth developing at a given time. However; should technical or economic conditions change, such a field may become commercial field. [20] Irrespective of geographical location and technical characteristics, a key factor which influences the commerciality of marginal fields is the fiscal regime under which they are operated. Developing marginal fields in an economically attractive manner is often challenging, as they

[13] A Oni, A Afun and O Okah-Avae ; 'The Proposed 2017 Marginal Fields Bid Round in Nigeria' (16 February 2017) BLOOMFIELD <www.bloomfield-law.com/our-works/the-proposed-2017-marginal-fields-bid-round-in-nigeria/>accessed 3 August 2019.

[14] O I Awotiku; 'Quantification of Uncertainty and Risks for Developing Marginal Fields in the Niger Delta', Being a thesis presented to the Department of Petroleum Engineering African University of Science and Technology in partial fulfillment of the requirements for the degree of master of science <https://docmh.com/quantification-of-uncertainty-and-risks-for-developing-marginal-fields-in-the-niger-delta-pdf> accessed 8 August 2019.

[15] O Ikezogwo; 'Incentivizing Marginal Field Developments', part 1' <http://palantirsolutions.com/incentivizing-marginal-field-developments-part-1/.> accessed August 8 2019.

[16] M Shosanya (n 3).

[17] B Udo; 'Marginal Oil Field Operators Blame Poor Performance Multiple Taxes' (15 March 2013) *Premium Times* <www.premiumtimesng.com/business.com/125078-marginal-oil-field-operators-blame-poor-performance-on-multiple-taxes.html>accessed 4 August 2019.

[18] C Nwaozuzu ; (n 10).

[19] *Ibid*.

[20] O I Awotiku (n 14) 4.

require the expensive infrastructure of large fields, but have smaller expected revenue streams, often due to lower reserve sizes. This is where carefully designed fiscal systems can make all the difference.[21]

2.1. Definition of Marginal Oil Field under the Petroleum Act

According to the Petroleum Act,[22] "Marginal Fields" are such field as the president may from time to time identify as a marginal field. Iloba-Aniye[23] faulted this definition as it places what marginal fields are in the realm of subjectivism. That is, in the president's opinion who may perhaps know little or nothing about marginal fields. He further argued that from the definition of marginal oil field under the Act, the existing marginal fields which are unproductive and non-viable could be declared no longer marginal fields by the president. He therefore concluded that the definition tells less about marginal fields. In order to restrict the arbitrary classification of fields as marginal by the president, the Department of Petroleum Resources issued guidelines enumerating the features, which must exist before a field can be classified as marginal. They are as follows:[24]

i. Fields not considered by license holders for development because of assumed marginal economics under prevailing fiscal and market terms.
ii. Fields with at least one exploration well drilled and have been reported as oil and or gas discovery for more than 10 years with no follow up appraisal or development effort.
iii. Fields with crude oil characteristics different from current streams (such as crude with very high viscosity and low API gravity), which cannot be produced through conventional methods or current technology.
iv. Fields with high gas and low oil reserves.
v. Fields that have been abandoned by the leaseholders for upwards of three years for economic or operational reasons.
vi. Fields that the present leaseholders may consider for farm-out as part of portfolio rationalization programmes.

3. Legal Framework of Marginal Oil Field Development in Nigeria

Marginal oil field became a policy of the Federal Government under the Petroleum (Amendment) Decree No 23 of 1996, which introduced paragraph 16A to the First Schedule of the Petroleum Act,[25] now paragraph 17 of the First Schedule of the Petroleum Act.[26] The legislation[27] provides:

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[21] O Ikezogwo (n 15).

[22] Cap. P10, LFN 2004. para17(4).

[23] O Iloba –Aniye; 'Oil and Gas: Appraising the Role of the Marginal Fields Concept Under the Nigerian Oil and Gas Law' (2010-2012) 5(1) *Ahmadu Bellow University Journal of Commercial Law*, 89.

[24] Guidelines for Farm-out and Operation of Marginal Fields 2013 Issue by the Department of Petroleum Resources.

[25] Petroleum Act Cap. P10, LFN 2004 section 17.

[26] *Ibid*.

[27] The implication of this Act is that it does not apply to any other licence such as the oil prospecting licence and of course the oil exploration licence. It does not also apply to the holder of an oil prospecting licence notwithstanding that he discovers a marginal field. This is because he would not have left his marginal field unattended for a period of ten years. The maximum term for an oil prospecting licence is five years and of course the oil exploration licence is definitely out of consideration as the nature of the licence given to him is for a one-year duration.

> The holder of an oil mining lease may with the consent of and on such terms and conditions as may be approved by the president farm-out any marginal field which lies within the leased area.
>
> The president may cause the farm-out of a marginal field if the marginal field has been left unattended for a period of not less than 10 years from the date of the first discovery of the marginal field.
>
> The president shall not give his consent to a farm out or cause the farm out of a marginal field unless he is satisfied- that it is in the public interest so to do, and in addition, in the case of a non-producing marginal field that the marginal field has been left unattended for an unreasonable time, not being less than 10 years; and that the parties to the farm-out are in all respect acceptable to the Federal Government.
>
> For the purpose of this paragraph-
>
> "**Farm-out**" means an agreement between the holder of an oil mining lease and a third party which permits the third party to explore, prospect, win, work and carry away any petroleum encountered in a specified area during the validity of the lease;
>
> "**Marginal field**" means such field as the president may from time to time identify as a marginal field.[28]

From the wording of this provision, the holder of the lease **may farm-out** marginal fields (producing and non producing fields) in its acreage with the consent of the president, the president shall give his consent to the farm out if the president is satisfied that the farm out is in the public interest and the parties to the farm-out are in all respects acceptable to the Federal Government. With respect to non-producing field, in addition to the above, the president shall give his consent to the farm out if he is satisfied that the field has been left unattended for an unreasonable time, not being less than 10 years.

On the other hand, the president **may cause the farm-out** of a marginal field (non-producing field) if he is satisfied that the marginal field has been left unattended for a period of not less than 10 years from the date of the first discovery, the farm out is in the public interest and the parties to the farm-out are in all respects acceptable to the Federal Government. It is therefore obvious from the above that the lessee has a greater discretion over the type of marginal field that is farmed out. The field farmed out by the lessee may be

[28] Section 17(1) –(4).

currently producing or non-producing, whilst that farmed out at the instance of the president must be field that had been unattended to for at least ten years.[29]

4. Objectives of Marginal Oil Field Development in Nigeria

The broad objectives of the Marginal Fields awards are captured in the guidelines for farm-out and operation of marginal fields 2013 issued by the Department of Petroleum Resources.[30] They are as follows:

i. To grow production capacity by expanding the scope of participation in Nigeria's Petroleum sector, through diversification of resources and inflow of investments.
ii. To increase oil and gas reserves base through aggressive exploration and development effort, in particular the deeper hydrocarbon plays.
iii. To provide opportunity for portfolio rationalization.
iv. To promote indigenous participation in the sector thereby fostering technological transfer.
v. To provide opportunity to gainfully engage the pool of high level
vi. technically competent Nigerians in the oil & gas sector.
vii. To promote common usage of assets/facilities to ensure optimum
viii. utilization of available capacities.

5. Assessment of Marginal Oil Field Development in Nigeria

The introduction of the marginal oil field development programme has put in place opportunities for indigenous companies to participate in the upstream sector of the Nigerian petroleum industry. The business of exploration and production of oil which had been within the exclusive preserve of foreigners over the years has now been brought closer home by virtue of this programme. This is a commendable development. This programme also provides incubation for indigenous companies which can overtime venture into large-scale exploration and production operations in the less conventional terrains. There is more opportunity for technology transfer from the international oil companies which in many cases are now technical partners, the nation's production capacity growth is highly accelerated, employment opportunities are boosted in the country and competition which can sometimes be seen as healthy for the nation's development is enhanced[28]. However, despite these obvious advantages, the programme cannot be said to be a total success in Nigeria. It is therefore germane to consider how these awardees of the field have fared over the years. This will provide a value judgment on whether the programme has attained the stated objectives for its introduction in Nigeria.

[29] Y Omoregbe, 'Fundamental Issues Relating to the Development of Marginal Fields in Nigeria' (1999) 3(4) *Modern Practice Journal of Finance and Investment*, 740.

[30] Guidelines for Farm-out and Operation of Marginal Fields 2013 Issue by the Department of Petroleum Resources.

5.1 List of Producing Fields[31]

DPR has listed active and productive marginal fields as follows:

1. Platform Petroleum – Egbaoma – OML 38;

2.Walter Smith and Morris Petroleum – Ibigwe – OML 16;

3.Frontier Oil Ltd – Uquo – OML 13;

4. Britania-U Nig. Ltd. – Ajapa – OML 90;

5. Midwestern Oil & Gas/Suntrust Oil Ltd – Umusadege – OML 56;

6. Pillar Oil Ltd – Umusati – OML 56;

7. Energia Limited/Unipetrol Petroleum Limited (bought over by Oando) – Ebendo – OML 56;

8. Oriental Energy – Ebok – OML 67;

9. Niger Delta Petroleum Ltd – Ogbelle – OML 54.

5.2 Platform's/Newcross Marginal Oil Field

Platform Petroleum won the bid for the field in 2003 after executing a farm-out agreement with Shell/NNPC Joint Venture in 2004; it was handed over to the company in November of the same year. The company went into agreement with Newcross Petroleum (another indigenous company), the arrangement culminated in farm-out agreement three months later. Under the agreement, Newcross owns 40 per cent of the field while Platform retains 60 per cent equity.[32] The Platform Petroleum Limited/Newcross Petroleum Joint Venture's Asuokpu/Umutu formerly Egbaoma marginal field commenced production at a flow rate of between 3,000 and 4,000 barrels per day. The development, which is the climax of two years' work by the Nigerian firms, involved the testing and completion of two wells, design, construction, installation and commissioning of a 10,000 bpd flow station and 48 kilometers of delivery pipeline as well as ancillary facilities.

The feat is also significant as this is the first of the 24 marginal fields licensed in 2003 to successfully come on stream in the Federal Government's quest to ensure rapid involvement of Nigerian engineers in the nation's crude oil exploration and production business. It is also reported that the facilities built by Platform Petroleum and Newcross Petroleum are available for use by a cluster of four other marginal fields around the firms, thus promoting more efficient use of common facilities and more cost-effective field development option".[3333]

[31] M Eboh, ′Marginal Fields Contribute Less Than 4% of Oil Output' (6 September 2016) Vanguard <www.vanguard.com/2016/09/marginal-fields-contribute-less-4-oil-output/> accessed 3 August 2019.

[32] Newcross Petroleum Limited, 'Platform's/Newcross Marginal Oil Field Begins Production At 4,000bpd' <www.newcrosspet.com/platforms-newcross-marginal-oil-field-begins-production-at-4000bpd/ >accessed 3 August 2019.

[33] *Ibid*.

5.3 Midwestern Marginal Oil Field

Midwestern Oil and Gas production activities from its Umusadege field has been described as crucial and a significant development for the industry in Nigeria. The Director, Department of Petroleum Resources (DPR), Mr. George Osahon stated this in Lagos at the Society of Petroleum Engineers' 37th Nigerian Annual International Conference and Exhibition. He said crude oil production from the nation's marginal fields had reached 60,000 barrels per day, of this production figure, Midwestern accounts for about 32% of marginal capacity.[34] Midwestern Oil and Gas Company Limited and its technical partner Mart Resources have unveiled plans to upgrade their permanent central production facility located at the Umusadege Umu field to process up 30,000 barrels per (bpd). Aggregate production from the UMU-6 Well since December 2010 is approximately 52,000 barrels per day. This marginal field is located in the former OML 56 in the central Niger Delta, some 100km northeast off Warri and was discovered by Elf in 1974.[35]

5.4 Brittania-U Marginal Oil Field

The Ajapa marginal field operated by Brittania-U began production in January, 2010. It is the first offshore field operation with a properly built floating, production, offloading unit (FPOU) with capacity to handle 10,000 barrels of crude oil per day. It also has a 780,000 barrels capacity ocean going tanker and a 4,200 horse power tug boat that lifts its crude to Chevron’s export facility and the tanker is available to handle crude oil movement services for interested third party companies. The company completed a $30 million buy-out of its foreign partners, Syntroleum Nigeria Limited, a member of the Pan-Petroleum (holding) Cyprus Limited.[29]

These are some of the success stories of the indigenous companies which have shown resilience despite the challenging environment of their operations and have shown the capacity to handle bigger responsibilities in a highly competitive global world economy.[36] The Department of Petroleum Resources reported that the nine productive fields were able to grow their reserves from 141 million barrels in 2004, to 302.6 million barrels in 2013, while more recently, the Nigerian National Petroleum Corporation, NNPC, said marginal fields operators accounted for 3.09 per cent of the country’s crude oil output between June 2015 and May 2016. Specifically, NNPC stated that marginal fields produced 23.243 million barrels of crude oil from June 2015 to May 2016, compared to a total 751.882 million barrels produced in the period under review.[30] However, on the score card, where 37 marginal fields were awarded, only 9 companies are producing and remaining 28 operators not producing is a big failure. The score card of the 9 oil companies producing is very excellent.[37] The question therefore is, what are the developmental challenges of these marginal field operators?

6. Development Challenges of Marginal Oil Field in Nigeria

Of a truth, some progress has been made in marginal fields’ development in Nigeria as 9 out of the 37 operators are producing. However, more still needs to be done, as some factors have constrained the activities

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[34] Midwestern Oil & Gas Company Limited, ‘DPR Acknowledges Midwestern as a Frontline Marginal Field Operator’ <www.midwesternog.com/index.php/2015-11-13-03-27-41/news/80-dpr-acknowledges-midwestern-as-a-frontline-marginal-field-operator> accessed 4 August 2019.

[35] O Iloba-Aniye (n 23) 95.

[36] *Ibid.*

[37] O Iloba-Aniye (n 23) 95.

of marginal field operators. The main factors relate to the lack of funding and the marginality of the fields. Other factors are: inadequate technical expertise, government policies on royalties and petroleum taxes, board/ partnership wrangling in some cases, and in other cases the presence of significant anti-entrepreneurial mentality among the operators.[38] These factors and many more will be discussed below:

6.1 Funding

The financial demands of oil exploration and production are extremely high and the funding capacity of the indigenous players is very low. Finance for development of the fields may come from three major sources which include, individuals who are men of substance, a consortium of banks based in the country, or foreign banks since this is basically a business denominated in dollars. Each block would require about $30 million to bring to production. Considering that most of the fields were discovered over 30 years ago, it is possible that the infrastructure may have even become dilapidated. High capital expenditure (CAPEX) is sometimes required for laying the pipelines and fixing the dilapidated infrastructure and these most times obliterate profit. The financiers most times laid down stringent conditions before approving the fund. Also, high interest rates (in double digits) & short tenors are a major headache for marginal operators.[39] Most bankers insist that the problem with funding marginal fields' development is that the only asset available on the table as collaterals is the marginal field itself. Most bankers insist that if a marginal field operator has cash flow from other oilfield operations, or other businesses or has a sizeable deposit with the bank, then the bank can leverage on these to approve loan facilities.[40] The need to invite foreign partners has become inevitable given that most local banks have not co-operated with marginal field operators in putting these fields into production.

However, such invitations run contrary to the core moral concept and principles of the marginal fields' licensing exercise. The original principle behind this exercise whereby the government took undeveloped discoveries, which has proven oil, from the oil majors and awarded these to local companies, was to encourage indigenous capacity building in the upstream petroleum sector. The indigenous marginal field operators were expected to employ Nigerian geologists and petroleum engineers, acquire workstations for their use, utilize other local skills in field development (in the office and on operational site), put local talent on site to supervise well drilling and produce the oil, and in the event, increase the pool of technically capable oilfield personnel who can replicate the same exercise elsewhere in Nigeria and abroad. Therefore, to invite technical partners would mean that the country still has not 'indigenized' the development of these marginal oil assets.[41] The General Secretary, Petroleum and Natural Gas Senior Staff Association of Nigeria, PENGASSAN, Mr. Bayo Olowoshile, told Sweetcrude that the financial challenges faced by the indigenous operators have made operators to act as fronts or proxy for foreign investors, who end up buying the assets. He further stated that in reality, the indigenous investors are still far from pooling the resources for the oil and gas business and as such, most of them act as fronts or proxy for the real foreign owners, who truly buy the asset and pay commissions to indigenous owners.[42]

[38] C Nwaozuzu, (n 10).
[39] O I Awotiku (n 14) 14.
[40] C Nwaozuzu, (n 10).
[41] *Ibid.*
[42] M Eboh (n 31).

6.2 Relative Marginality of the Fields[43]

The second constraint is the relative marginality of the fields. Of the six companies that have brought their marginal fields to production as at 2011, only Mid-Western Resources partnering with Mart Resources are producing sizeable volume of crude oil (about 8,700 bpd). This is followed by Brittania-U which is producing (about 2,300 bpd) and Energia which is producing (about 2,000 bpd). Pillar Oil was producing (about 100 bpd) before the well-watered-out. Some of these volumes can be quite discouraging for ambitious foreign E & P companies, considering the amount of investment required to bring some of these fields into production. Production from swampy / deep sea fields is usually higher than production from onshore fields. This is a critical issue that investors have to consider too.

6.3 Lack of Adequate Technology and Paucity of Local Technical Expertise

For any oil field to be developed properly, adequate technology has to be in place. Marginal fields require unconventional equipment and technology. These technologies include the following:

Extended reach, Infill drilling, Slim-hole drilling, Coil tubing, Down hole electric submersible pump, Surface multiphase pump, Intelligent well completion, Lease production facilities – a-fit-for purpose production facility on a leased operated and maintained basis.

Most of the operators lack these technologies.[44] More so when these technologies are available, hiring and keeping people with the needed technical know-how by the marginal field operators is very difficult. The task of having a competent technical team most times looks impossible for operators. This is because they are unable to pay right people the wages they demand for. Also, both local contractors and consultants are lacking in the skill and corporate knowledge to work on marginal fields with their international counterparts rolling out expensive bills and too big to have time consulting on marginal fields[3145] Undoubtedly, there exists abundance of local technical expertise, which has developed over a long period of time. This is so, considering that Nigeria has produced oil in commercial quantities since 1970 to date. However, most of them may not be available to work for marginal operators if they can earn more pay with established E & P companies. It should also be acceptable to highlight the relative differential in quality between local technical expertise and the technical expertise available in Western countries. [46]

6.4 Government Policy as Regards Royalties and Taxes.

The fourth major constraint is government policy as regards royalties and taxes. The current fiscal regime relating to marginal fields does not make the development of these fields attractive. It only offers a reduction of 19.25 percent in petroleum profit tax. This does not adequately reflect the fact that the operation of these fields requires the use of unconventional technology which is very expensive.[47]

6.5 Lack of Infrastructure

Most times, marginal fields are located at distances far from other existing fields with processing and storage facilities. This makes it difficult for operators to produce these fields. Also, the infrastructures on ground are sometimes old and dilapidated rendering them useless to marginal field producers. The cost of developing

[43] C Nwaozuzu, (n 10).
[44] O I Awotiku (n 14) 15.
[45] O Iloba-Aniye (n 23) 97.
[46] C Nwaozuzu (n 10).
[47] O Iloba-Aniye (n 23) 97.

new infrastructure is high for the producers but they are sometimes left with no choice but to do this and this eats deeply into their profit. There is therefore the need for more innovative alternative solutions that will minimize reliance on third party infrastructure. In most cases, the use of third party infrastructure is inevitable, and discussions on crude handling agreements and tariffs hurt the development of the marginal fields.[48]

6.6 Operational Security

In times past, there was significant security concern in the Niger Delta. Mostly, the onshore facilities of many oil companies were attacked by Niger-Delta Militants during the late period of last decade. The peak of the security concerns was in 2008, and oil production in Nigeria fell to about 1 million barrels per day and no marginal field could operate. A lot of the partners of marginal field investors boycotted the programs[49]as the marginal field investors had to contend with unending community demands, extortion and existential threats; while third party evacuation infrastructure is constantly being breached. There has been calm in the Niger Delta for some years, courtesy of the amnesty program by the Federal Government and calm has returned with daily production back to 2.6 million barrels/day and many marginal fields back in active operation. [50]

6.7 Poor Management

Management of marginal oil fields requires serious attention so that minimum investment could pay back maximum profit in a short period. However, this is not so as most marginal fields in Nigeria have poor or no management at all. A business venture with poor management will end up in the pits because poor decisions will be taken. Most marginal field operators have been unable to raise funds due to lack of proper management on their part. This lack of proper leadership and management may lead to the failure to meet up with the work programme on the field and this would invoke the withdrawal / termination of the approvals from the operators.[51]The Managing Director of JC-Biennd Limited, Engr. Johnson E. Duru, who is a consultant on oil and gas upstream and downs stream, trade and development at the 2016 Africa Small and Marginal Oil Fields Development Conference held in London, with the theme, “Find It, Commercialize it” pointed out that some of the issues on marginal field were self-inflicted, as operators had poor planning and budgeting, poor internal control, reckless expenditure, ineffective (kangaroo) board, lack of required man-power in critical positions, lack of job description – no clear job responsibilities within the organization, none existence of job security, poor remunerations/benefits to staff and poor recruitment strategy – lack of key in-house expertise. Others, he stated, were poor (almost non-existing) training/staff development plan, lack of clear understanding of the industry by some of key decision makers, inability to recognize the right technology to support well planning/development, poor collaboration/engagement with services companies/organizations for technically support in their developmental efforts and lack of patient.[52]

6.8 Wrong Technical and Financial Partnership

Wrong technical and financial partnership is one of the key ingredients for the failure observed in the operations of many of the licensees that have performed below expectations. Specifically, many of the

[48] O I Awotiku (n 14) 15.
[49] M Eboh (n 3I).
[50] O I Awotiku (n 14) 15.
[51] M Shosanya (n 3).
[52] Newsherald; ‘Stakeholders List Challenges Of Marginal Field Development’ <https://newsherald.com.ng/2016/08/stakeholders list-challenges-marginl-field-development/> accessed 1 August 2019.

licensed marginal fields were allocated to companies to develop indigenous capacity. However, upon the realization that these indigenous companies did not have the technical and financial capacity to develop the marginal fields post allocation, the Federal Government of Nigeria (through the Department of Petroleum Resources) gave a concession for foreign companies to farm into these marginal fields. The farm-out to any foreign company is however subject to the parties seeking and obtaining the consent of the original farmee and the Federal Government of Nigeria. Perhaps owing to lack of experience and due to the fact that it was the first marginal field licensing round, some of the licensees entered into financial and technical arrangements with foreign partners without proper due diligence which, in turn, failed to bring some of the aspirations of the licensees to reality. Several of the agreements formalizing the partnership were lopsided in favor of the foreign technical partners as many of the marginal fields owning Nigerian companies either did not engage the services of legal practitioners with expertise in negotiating such arrangements or did not engage legal practitioners at all until they found themselves in stormy waters. Thus, it was, in many cases, a situation where these indigenous companies are stuck to these foreign technical partners even where same failed to fulfill their key performance targets. The foregoing, has invariably led to the high level of failure amongst marginal fields licensees.[53]

6.9 Failure to Conduct Proper Due Diligence

Failure to conduct proper commercial and technical due diligence exercises prior to submitting bids, together with the failure of the financiers to conduct proper due diligence on key contracts that underpin such capital intensive project(s) in order to ensure that risks are appropriately allocated and not weighted against the marginal field operator solely arguably played a role in the eventual abandonment of these marginal fields. [54]

6.10 **Unending Litigation**

Another challenge that served as a drawback to the marginal fields programme is the unending litigations by most of the parties the fields were awarded to. The bid rounds brought a lot of litigations, due to the fact that the parties were technically asked to merge before the fields will be awarded to them. Till today, majority of them are still in court and are yet to kick start the process of production on their fields."[55]

6.11 Deduction of 20% Daily Crude Oil Production as A Loss to Oil Thieves

The Managing Director of Seplat Petroleum Company, Austin Avuru, in his presentation titled" Indigenous Participation for What?" made a revelation that raised a serious concern not only to the industry players but to the policy makers. Avuru lamented that the deduction of 20% daily crude oil production from Seplat Petroleum Company and other indigenous E&P operating in marginal fields as a loss to oil thieves is a sham. He noted that over the past months, his team of engineers did a comprehensive calculation of the crude oil produced by Seplat per day, from the well head to the export terminal. The result, he said shows that there is no way Seplat Petroleum can lose 20% of its daily production to oil thieves. The Seplat boss pointed out that indigenous operators operating in the onshore such as Platform Petroleum limited, operator of Egbaoma (OML 38), Midwestern Oil / Gas & Suntrust Oil, operator of Umusadege (OML 56) and Energia Limited, operator of Ebendo/Obodoeti (OML 56) cannot lose 20% daily production because the pipelines from the well

[53] Elokaanidi;'Setbacks and Challenges Faced by Marginal Field Operators' <www.ares.ng/2017/03/04/setbacks-and-challenges-faced-by-marginal-field-operators/ >accessed 2 August 2019.

[54] *Ibid*.

[55] M Eboh, 'Obstacles Mar Marginal Fields Programme' (5 August 2013) VANGUARD <www.vanguardngr.com/2013/08/obstacles-mar-marginal-fields-programme/ >accessed 3 August 2019.

head via flow station to the export terminal has remained intact. To this end, the 20% deduction from marginal fields and indigenous operators is in bad faith. Avuru explained further that though crude oil theft take place at the low tide and the high tide, large chunk of crude oil stolen take place at the export terminal. The facility attendants in collaboration with company representatives and security agents in the night open the discharge hose into a waiting ship. Apart from the cabal and their international partners that steal at the high tide, the peasant oil thieves from Niger Delta steal crude with a wooden boat called "cotonou boat". The cotonou boat contains about 700 barrel of crude oil, which is about 2 tanker of 33,000 litre capacity, for 17,000 barrels of crude oil to be stolen onshore about 100 tankers have to be engaged. He therefore called for urgent metering from the well head to the export terminals to enable the country determine the accurate quantity of crude oil stolen per day.[56]

7. Recommendations

1. Financing is one of the key problems of marginal oil field development in Nigeria. As a result of lack of fund, most so called indigenous investors are just acting as fronts for foreign companies. If the country is to develop a true indigenous entrepreneurial spirit, serious financing for the development of marginal fields should be a major area of consideration. The work therefore makes the following recommendations on the issue of funding.

(a) The marginal oil field operators should seek for fund in the capital market. Stock exchange has unarguably proven to be one of the best ways to raise capital. The operators should seek for both local and foreign listing, this is because a great deal of foreign exchange is required in the procurement of machinery, tools, equipment and payment for certain services rendered by service companies for the development of the fields and such fund cannot be raised by any company that is locally listed without international listing.

(b) The government can enhance the financial status of these marginal field operators by providing loan facilities and participating through agreements designed to regulate as well as provide the needed financial capacity for the companies to flourish as is presently done in the entertainment industry.[57]

(c) Operators can partner with Commodity Trading Houses to secure development funding. The Commodity Trading Houses may provide finance in exchange for crude oil from the field as the case with Glencore via an Exclusivity Off-take Agreement with Sirius Petroleum for the Ororo Marginal field in OML 95 (farmed out by Chevron).[58]

2. On the issue of lack of adequate technology and paucity of local technical expertise- it is suggested that petroleum academic centers in the country should be strengthened through funding by the government. This should enhance human capacity development needed in the industry and reduce the strong dependence on expensive expatriate personnel and skills. More so government should lay emphasis on acquiring technological skills. This could be achieved by promoting research and development in the oil industry. This is imperative if the government is serious about achieving de facto control of the oil industry. Creation of local research capability in this area can help reduce foreign dependence, create a scientific and engineering base and establish a local technology for the local industry. In addition, research and development (R. & D.) can boost import substitution which will in turn reduce the foreign exchange paid through royalties under the

[56] M Osaneku; 'Marginal Field & Indigenous Operators: Challenges & Prospects' <http://nigeriaoilgas.com.ng/?p=1081> accessed 2 August 2019.

[57] Y Olakitan; 'A Closer Look at the Nigerian Entertainment Fund' <https;//yemiolakitans.com>2013/05> accessed 4 July 2019.

[58] Sirius Petroleum; 'Sirus Petroleum Plc Glencore Exclusivity Off- take Agreement' <www.siriuspetroleum.com/media-news/sirius-petroleum-petroleum-plc-glencore-exclusivity-off-take-agreement/> accessed 4 July 2019.

patent system. The promotion of R. & D. allows for the adaptation of foreign imported technology to local conditions and needs. If Nigeria is to promote R. & D. and other related activities, an adequate budget should be provided which can support such activities.

3. The government needs to review and revise the fiscal terms. The fiscal terms as they stand need to be enhanced to reflect the risky and sensitive area of marginal fields. Most operators believe that the present fiscal terms for exploration and production activities especially onshore require significant improvement.
4. On the issue of operational security: Partnering with the host community is the sure way to reduce community disturbances, therefore marginal oil operators should endeavor to do more for the host communities. Through human and infrastructure development; adequate public enlightenment program by organizing town hall meeting to educate and inform the community on projects to be executed, contract to be awarded, employment and above all, make host community stakeholders.
5. It is very important that the local awardee should carry out extensive due diligence on its intending partner, on the level of their technical and financial ability, the marginality of the field they bid for and the requisite fund needed for the development of the fields as these will in most cases determine the success of their venture.
6. On the issue of poor management – there is need to provide adequate internal structuring within the oil company with particular attention to decision making structure, fund management and Health, Security and Environment (HSE) standards amongst other key areas as they all play critical roles in ensuring smooth operation of the marginal fields. To achieve the foregoing, experienced professionals (including legal practitioners) should be engaged.
7. On the issue of surreptitious transfer of interest by farmees to foreign operators as a result of lack of fund to develop the field. - An indigenous company transfer of or assignment of its interest in a marginal field runs contrary to the objective for the introduction of marginal oil field development in Nigeria, more so, for any country, there are major differences when a critical service is being performed by national as opposed to a foreign company, not only is the Gross National Product (GNP) of the country positively affected, but positive flows of increased ancillary revenues, technology acquisition and development, and other positive externalities also accrue. Therefore, to ensure that the farmees do not assign or transfer their interest to foreign operators for whatever reason, the government should enact legislation which expressly prohibits the assignment of marginal fields to a foreign operator, while allowing for partnership and technical assistance. A supervisory body, such as the Department of Petroleum Resources could be charged with the responsibility of ensuring that these companies operate in line with national policy and with the provisions of the relevant legislation.

8 Conclusion

The work critically analyzed the development of marginal oil fields in Nigeria in relation to the objectives for its introduction. It was submitted in the work that the programme has not been a complete success. The research identified and discussed some militating factors and appropriate recommendations were also proffered for review and reform. From all that were discussed in this research, the writer is of the opinion that if the government is serious about achieving all the objectives of the introduction of marginal oil field development in Nigeria it is therefore expedient that the government should render more support to marginal field operators.