



## Stakeholders' perception of the implementation and Effectiveness of Environmental Management plan in oil and gas projects in the niger delta region in Nigeria

Hemba Stephen <sup>1</sup>, Wali Elekwachi <sup>2</sup>

<sup>1</sup> Department of Geography, Federal University Birnin Kebbi, Kebbi State, Nigeria

<sup>2</sup> Department of Environmental Management and Pollution, Nigeria Maritime University, Okerenkoro, Delta State, Nigeria

### Abstract

Oil and gas production activities in the Niger Delta region in Nigeria is blamed for wide spread environmental degradation and social conflict in the region. Yet it is known that Oil and gas projects are approved on the condition that Environmental Management Plan (EMP) would be implemented to mitigate the adverse impacts of project and optimise the positive impacts towards sustainability. This study examined the extent of the current implementation and effectiveness of Environmental Management Plan used in oil and gas production projects in the Niger Delta region in Nigeria using stakeholder's perception. A semi structured questionnaire was developed for the study and administered on 384 respondents between July and November 2017. Although long, it provides rare insights into EMP effectiveness in the region at point in time which remains relevant for understanding current trends. The respondents comprised government agencies, oil company officials, academics/consultants, NGOs and members of project communities. Descriptive statistics was used to analyse the data. Findings showed that the EMPs are developed with specific goals, which is an important mark of quality of the EMPs but the current level of implementation of EMP is inadequate to effectively mitigate the impact of the projects on the environment of the sub-region. There is inadequate community involvement in the implementation process, monitoring of EMP implementation is not carried out as required to adequately mitigate the impact of projects on the environment and drive towards sustainability of the region. However, the implementation has changed the ways projects affect the environment and have contributed to improvements in environmental management in the study area over time. Improved implementation is recommended to achieve further gains.

**Keywords:** Environmental Management Plan, Impact Assessment, Sustainability, Niger Delta, Oil and Gas Projects, Effectiveness, implementation

### Introduction

Commercial petroleum exploration and production activities in the Nigeria's Niger Delta began in 1958 and became intensified later in the 1970s (Odjugo, 2011; Iniaghe, et al, 2013; Yakubu, 2017) [23, 35, 49]. Its potential environmental impacts resulted in the need to evolve strategies for effective management of the oil and gas production environment like the use of Environmental Impact Assessment (EIA) as an environmental management tool to account for the impact of the oil and gas projects (Anyadiegwu, 2012; Yakubu, 2017) [4, 49]. The use of EIA to manage the impacts of development on the environment is a standard global practices adopted by nearly all members of the United Nation and operated under definable institutional structure (Gubena, 2016) [17]. The Nigerian EIA is practiced under two regulatory frameworks; there is the sector-specific EIA regime and the general framework which span all sectors ( Ogunba, 2004; Isah, 2012) [24]. In the oil and gas industry however, two EIA regulations are practiced which are the Petroleum Industry Act 2021 which now repeals the Petroleum Act of 1969 and the Environmental Impact Assessment act 1992 regulated by the Federal Ministry of Environment (Ogunba, 2004; Anyadiegwu, 2012; Ingelson and Nwapi, 2014) [4, 22]. Anyadiegwu (2013) has reported a harmonized procedure in regulatory practice in oil and gas by agencies responsible for enforcing the laws. The Federal Ministry of Environment has well-developed guidelines for the conduct of EIA in Oil and Gas. As at 1996, EMPs became a part of the EIA process in the oil and gas. According to the records obtained

from the Ministry 187 EMPs have been approved by the Ministry (Federal Ministry of Environment, 2019). Current practice provides that once the approval for a specific project is granted, the Environmental Management Plan (EMP) is detached from the Environmental Impact Statement (EIS) and used during the implementation of the project to address environmental concerns identified during the assessment. The EMP contains series of mitigation measures and monitoring framework for addressing the concerns. Its implementation is intended to foster accountability and transparency, thereby advancing sustainability. Nigeria's Oil and Gas production activities take place within the delicate ecological region of the Niger Delta comprising of mangrove wetlands considered to be threatened. A cursory observation of events in the Niger Delta shows that the Niger Delta environment is not sustainably managed in terms of addressing social, economic and environmental concerns through well developed environmental management approaches as often presented in Environmental Management Plans (EMP). It is characterized by a plethora of problems that have been linked to oil and gas production activities by many researchers (Ojarokutu and Gilbert, 2010; Unabia, 2010; UNEP, 2011; Fasina, 2016; Yakubu, 2017) [14, 37, 43, 49]. There is suspicion that the projects lack effective environmental management (see also Unabia, 2010; Fasina, 2016; Idiege, 2017) [21, 43]. These questions the actual implementation of

the Environmental Management Plans (EMPs) and their effectiveness. According to Dadiowei (2009) [10] there is a clear nexus between sustainable development and the mitigation or escalation of violent environmental conflicts that have characterized the region.

While the sustainability crises in the region persist, oil and gas production continue because of its significance to the economy of Nigeria. No sufficient attention has been paid to the potential of the EMPs and their effectiveness in achieving the desired sustainability outcomes in the region by both the authorities and researchers.

Previous attempts at understanding the implementation of EMP in the oil and gas sector was the internal review of implementation of EMP by Shell Petroleum Development Company

Eastern Division (SPDC-E), a major oil production company operating in the Niger Delta (Dada and Akpandara, 2004 [9]). This was too narrow and failed to provide any information on the effectiveness of the implementation of EMPs in the sustainability of oil production region of the Niger Delta. A broader study by Hembra and Phil-Eze (2021) [19], reported implementation to be inadequate at a rate of 46%. While these studies represented the first a few known attempt at examining EMP implementation in the oil and gas sector and also in the Niger Delta, they failed to provide copious information on the effectiveness of the implementation of EMP. This study therefore intends to investigate and stimulate further scientific research into the effectiveness of Environment Management Plan in the oil and gas production projects in the Niger Delta.

**Materials and Methods**

According to De Groot, Stuij, Finlayson and Davidson (2006) [11] a stakeholder is a person, organisation or a group of individuals who have interest in a concern (e.g. project activities, development programmes) or particular resources. The study targeted various stakeholders' groups to acquire primary data to pursue its objectives. The use of stakeholders as a valid source of information is popular in this type of study (see also Nieslony, 2004; Isah, 2012; and Chanchitpricha and Bond, 2013; Veronez and Montaña 2015) [8, 24, 30]. The proponent, the Regulator and the community are three major stakeholders identified in EIA practice across literature (Nadeem and Hammed, 2010) [29]. In this study the proponents are the oil and gas multinational companies who also are the initiators of development; The regulator which is the government agency (ies) in charge of overseeing the

Implementation. The community is directly affected by the impact of the oil and gas production activities and are custodians of the environment comprised of academic, project host community and NGOs these are used in similar research (Isah, 2012; Fischer and Nadeem, 2013; Benett et al, 2015) [15, 16, 24, 29].

A set of semi structured questionnaires was administered between July and November 2017 on 384 respondents comprising various types of stakeholders. The snowball method which involves identification of initial respondents within a particular category who then suggest or recommend others within the category for contacting, the method was used to identify individual respondents, and the questionnaire was administered on them. A multistage selection procedure was adopted for the host community

respondents. First stage involved purposively selecting communities based on ongoing EMP implementation. Thereafter, systematic random sampling process was used to select specific households for the survey. Descriptive techniques and Analysis of Variance was used to analyse the data obtained. Although data for this report was collected since 2017, it provides rare insights into EMP effectiveness in the region at point in time which remains relevant for understanding current trends.

**Results**

**Demographic Characteristics of respondents**

The socio-demographic characteristics of the respondents in the study as shown in Table 1 indicates that majority (96.6%) of the respondents are workers in the formal sector while student and apprentice account for the 3.4%. Also, the table shows that more than 7 in every 10 respondents had tertiary education while the remaining 28% had no formal education

**Table 1:** Social-Economic Characteristics of Respondents

Occupation		Frequency	Percent
Valid	Civil servant/Public Servant/Other Service	371	96.6
	Student/apprentice	13	3.4
	Total	384	100.0
Education attainment		Frequency	Percent
Valid	Tertiary school	276	71.9
	No formal education	108	28.1
	Total	384	100.0

Education strengthens awareness by enhancing the capacity interpret and apply information, thus it implies that the majority are likely to be informed about what is happening in their environment and the issues relating to oil and gas production. Also, the indication of majority in the Civil/Public Service and other services in the formal sector explains their background as either government staff, consultants, oil company workers and members of the civil society who constitute majority of the stakeholders in the implementation of environmental management plan.

**Table 2:** Demographic Characteristics of Respondents

Time lived in the community in years	Frequency	Percent
1-5	20	7.3
6-10	26	9.9
11-15	131	48.7
16-20	92	34.1
Total	269	100.0

**Duration of residence and Status in the Community**

All respondents who represented members of the community have lived in the communities where the projects are sited. Findings show that majority (48.7%) have lived in the communities for between 11-15 years. These members of the community have adequate experience by virtue of their long stay within the communities to be able to understand what may have been happening in the community with regards to EMP implementation in the oil and gas production activities. Interestingly, EMPs were introduced in the study area in 1996, which is barely 21 years at the time of this survey. This means that majority of the respondents are likely to have witnessed EMP implementation from inception. The residence and status of the respondents in the community is summarised in Table

2Awareness that EMP should be Implementation in oil and gas projects in the Niger Delta

**Table 3:** Demographic Characteristics of Respondents

		Frequency	Percent
Valid	Yes	349	90.9
	No	35	9.1
	Total	384	100.0
<b>responsibility for EMP implementation in oil and gas projects in the Niger Delta</b>			
		Frequency	Percent
Valid	Oil companies	281	73.2
	The government	103	26.8
	Total	384	100.0

**Table 4:** Participation of Respondents in the EMP implementation process

<b>Duration associated with EMP implementation in oil and gas projects</b>			
		Frequency	Percent
Valid	Below 2 years	38	9.9
	2-4 years	58	15.1
	4-6 years	68	17.7
	6-8 years	108	28.1
	above 8 years	112	29.2
Total		384	100.0
<b>Level of participation in EMP</b>		Frequency	Percent
Valid	NGO representative	67	17.4
	Government representative (DPR, NESREA and FME)	38	9.9
	Oil company (Proponent)	77	20.1
	EIA researcher/consultant	67	17.4
	Community representative	135	35.2
	Total	384	100.0

(Source: Field work 2022)

**Awareness on the implementation of EMP**

As shown in Table 3 all of the respondents (100%) are aware that Environmental Management Plan should be implemented in the oil and gas projects. On who should implement the EMP, the majority (281) representing 73.2% of the respondents were of the opinion that oil and gas companies should be responsible in the implementation of EMP in the study area. Only a few of the respondents representing 26.8% thought that the government should be responsible in the implementation of EMP in the oil and gas. According to the Nigeria EIA regulations, every oil and gas production project must be subjected to the EIA and the EMP and its implementation is anecessary condition for the approval of the EIA and award of licence for the commencement of the project. The EIA regulations further direct, similar to other EIA jurisdictions of the world, that the proponents should be responsible for the implementation of EMP. Government however, reserves some responsibility to supervise the implementation of the EMP.

**Participation in the EMP Implementation Process**

On how long the respondents have been associated with EMP implementation, the majority (112) representing 29.2% indicated that that they have been involved with EMP for above 8 years. Further findings revealed various levels of participation in EMP implementation by the respondents. A total of 135 respondents representing 35% indicated that they participated in the EMP implementation as project

community representatives. Those who indicated to have participated in EMP as oil company staff were 77 representing 20.1% of the respondents while EIA researchers/Consultants were 67 representing 17.4%. Others who indicated to have participated in the process as NGOs were 67 representing 17.4% and the regulators who were staff of the various departments with responsibilities in the EMP implementation representing 9.9%. In practice, the researchers, the NGOs and representatives of the project communities are considered commonly as ‘community’ which represent views of the ordinary people who could be impacted by a project and whose opinion must be considered in the implementation process. The government officials are the regulators and oil company officials are proponents. These three groups form the stakeholders in the implementation process of EMP.

**Table 5:** Adequacy of The Implementation of Emp

<b>Adequacy of the level of EMP implementation in the project in the Niger Delta</b>				
		Frequency	Percent	Percent
Valid	No implementation	50	13.0	13.0
	Inadequate	226	58.9	58.9
	Adequate	60	15.6	15.6
	Good	48	12.5	12.5
	Total	384	100.0	100.0
<b>Implementation of EMP has changed the way projects affect the host environment</b>				
		Frequency	Percent	Percent
Valid	Yes	245	63.8	63.8
	No	95	24.7	24.7
	I dont know	44	11.5	11.5
	Total	384	100.0	100.0

(Source: Field work 2017)

**Table 6:** ANOVA results of response between stakeholders

<b>Adequacy of the level of EMP implementation in the project in the Niger Delta</b>						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1271.2	4	317.8	0.847015	0.517117	3.055568
Within Groups	5628	15	375.2			
Total	6899.2	19				
<b>Implementation of EMP has changed the way projects affect the host environment throughout their life cycle</b>						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1694.933	4	423.7333	0.858339	0.520734	3.47805
Within Groups	4936.667	10	493.6667			
Total	6631.6	14				

**Satisfaction with the Implementation of EMP**

In order to determine the satisfaction with the EMP implementation in the study area, questions were put to respondents on their perception of the level of implementation of EMP across projects in the study area. Finding show that 71.9 % of the respondents expressing dissatisfaction (non-implementation/ inadequate implementation of EMP in the study area while

only 28.1% are positive about the implementation of EMP in the study area. On the basis of the perception of the respondents, it is valid to conclude that the implementation of EMP across projects in the study area is inadequate and not satisfactory.

On whether the implementation of EMP in the study area has changed the way projects affect the host environment throughout the life cycle of projects, as shown in Table 5, the majority 245 (63.8%) of the respondents indicated that the implementation of EMP has changed the way projects affect the host environment. Only 95 (24.7%) of the respondents indicated that the implementation of EMP has not changed the way projects affects the host environment. A few others (44) representing 11.5% do not know. The responses were cross tabulated with the characteristics of respondents and Analysis of Variance (ANOVA) was performed to determine if the variation in the responses between the NGO, government officials, Oil company officials

and the EIA professionals was statistically significant. The results shows no significance at;  $p > 0.05$  ( $p=0.517117$ ).

On the bases of this response, it is appropriate to conclude that the implementation of EMP across projects in the study area has changed the way projects affect the host environment. This implies that to a large extent the implementation of EMP has achieved some purpose.

Relating this to the adequacy of implementation of EMP where it was concluded that the implementation is inadequate, it could be added that, although implementation of EMP in the study area is not adequate, the level of current implementation has achieved some of the objectives of EMP to promote sustainability.

**Table 7: Community Participation (Public Participation)**

Communities play role in EMP in general		Frequency	Percent	Valid Percent
Valid	Never	74	19.3	19.3
	Sometimes	173	45.1	45.1
	Often	88	22.9	22.9
	Always	49	12.8	12.8
	Total	384	100.0	100.0
Community adequately involved in any of the EMP processes		Frequency	Percent	Valid Percent
Valid	Yes	78	20.3	20.3
	No	306	79.7	79.7
	Total	384	100.0	100.0

(Source: Field work 2017)

**Community Participation (Public Participation)**

The participation of the communities in the EMP was assessed based on the perception of the respondents on how often the communities play a role in EMP. According to findings, as shown in Table 7, the majority (173) of the respondents representing 45.1% of the all the respondents indicated that sometimes the communities play a role in EMP. Other respondents (88) representing 22.9% indicated that the communities often play a role in EMP. On the other hand, 74 respondents representing 19.3% of the respondents held that the communities never play a role while 49 respondents representing 12.8% indicated that communities always play a role in EMP in general. These numbers add up to indicate that 80.7% of the respondents believe that the communities play a role in EMP against only 19.3% of the respondents who feel that the communities never play a role in EMP. Based on the perceptions of the respondents it is

appropriate to conclude that the communities play a role in the EMP process generally. There are many ways the communities play a role in EMP to contribute to its effectiveness which include; participating in the EIA process which leads to the identification of impacts; development of EMP and participation in monitoring and auditing amongst others. As those who are directly affected by the projects as host communities, their participation could influence the outcome of the process as well as strengthen the process. This finding is a positive indicator to the credibility of the implementation and a pointer to the possibility of attaining the goals of EMP in the study area.

On the adequacy of community involvement in any of the EMP processes, respondents indicated that the level of involvement is not adequate. A majority of 306 respondents (79.7%) indicated that their communities are not adequately involved in any of the EMP process. Only 78 respondents representing 20.7% indicated that their communities are adequately involved in any of the EMP processes. Based on this response, it is safe to conclude that the communities are not adequately involved in the EMP processes. Relating to how often the communities play a role in EMP where majority of the respondents indicated that only sometimes, it would be correct to infer that such level of involvement is inadequate. Adequate involvement of the community is very significant indicator of implementation of EMP according to laid down procedure

**Table 8: Monitoring during EMP**

Regularity of monitoring				
		Frequency	Percent	Valid %
Valid	As planned	136	35.4	35.4
	Any time	30	7.8	7.8
	As funds are available	150	39.1	39.1
	Always	68	17.7	17.7
	Total	384	100.0	100.0
Indicators being monitored				
		Frequency	Percent	Valid %
Valid	Biophysical (Environment)	234	60.9	60.9
	Health	116	30.2	30.2
	Socio economic (Welfare)	34	8.9	8.9
	Total	384	100.0	100.0
Transparency and regularity of communication on socio-economic, health and biophysical environment				
		Frequency	Percent	Valid %
Valid	Never	16	4.2	4.2
	Sometimes	284	74.0	74.0
	Often	72	18.8	18.8
	Always	12	3.1	3.1
	Total	384	100.0	100.0

(Source: Field work 2017)

**Monitoring as EMP implementation**

In Table 8, the results of responses to the various questions pertaining to monitoring in the context of EMP implementation in the study area is presented. On how regular officials of government (regulators) inspect facilities and carry out environmental monitoring concerning projects impact and EMP, majority (150) of the respondents representing 39.1% indicated that inspection of facilities by officials is only carried out as funds are available. Other respondents (136) representing 35.4% of the total respondents indicated that the regularity of inspection is carried out as planned. Only 68 respondents representing 17.7% indicated that inspection of facilities by officials is

carried out always. A few respondents (30) constituting 7.8% indicated that inspection is carried out anytime. Based on these responses, it is appropriate to conclude that inspection of facilities to monitor compliance and implementation of EMP is carried out when funds are available. The standard practice in EMP implementation involves monitoring schedule (World Bank, 2006) [47]; which presupposes that the monitoring should be carried out regularly as planned. However, funding is essential to carry out this activity, this imply that it could only be carried out when funds are available. The danger with this situation is that monitoring may not be carried out during critical times that may be useful to correct unforeseen impacts before they become grave.

When asked the kind of indicators that are being monitored, majority (60.9%) indicated that it is the biophysical (environment) that are being monitored. This makes it appropriate to

conclude the socioeconomic component is relatively less monitored. This implies that less attention is likely. This may be responsible for the series of socioeconomic challenges experienced the Niger Delta (Fasina, 2016) [14]. Niger Delta as a region has experienced a plethora of social problems that have been attributed to negligence blamed on oil and gas production. Supposed that the socio-economic issues of livelihood changes, cultural changes, poverty amongst others are considered in the EMP.

On the transparency in communication on the indicators been monitored, a majority (284) representing 74% indicated that only “sometimes” is information on the socioeconomic, biophysical and health indicators are transparently being communicated. Drawing from this response, it is appropriate to conclude that, the information on the socio-economic, biophysical and health indicators is only sometimes transparently communicated. Poor communication of information in the implementation of EMP suggests that the implementation is inadequate. It is very important that the information on the implementation of process is adequately communicated.

**Table 9:** Improvement in Environmental management in the Niger Delta

Improvement in environmental management in the oil and gas in the Niger Delta over time			
	Frequency	Percent	Valid Percent
Highly not improved	53	13.8	13.8
Not improved	126	32.8	32.8
Improved	98	25.5	25.5
Highly improved	107	27.9	27.9
Total	384	100.0	100.0

(Source: Field Work 2017)

**Table 10:** Results of ANOVA on responses on improvement in environmental management

Improvement in environmental management in the oil and gas in the NigerDelta over time						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1271.2	4	317.8	5.79927	0.005013	3.055568
Within Groups	822	15	54.8			
Total	2093.2	19				

**Improvements in Environmental management in the study area**

Respondents indicated that environmental management in the Niger Delta has improved over time, as shown in Table

9, between not improved (32.8%), somewhat improved (13.8%), improved (25.5) and highly improved (27.9). This implies that the majority (53.4%) perceived that the environmental management in the Niger Delta is between improved and highly improved while only 46.6% perceived that environmental management in the Niger Delta has not improved.

Variations in the responses amongst the responding stakeholders was tested and it revealed a statistically significant difference in the responses among the groups ( $F=5.79927 < F_{crit}=3.055568$ ). Cross tabulation shows that the regulator (Government officials) indicated more (71%) that environmental management has improved. The EIA professionals also show a high of 70% in the opinion that environmental management in the Niger Delta has improved. This is compared to only 61% of NGO representatives, 66% of oil company representative and 67% of Community representative. The government representative and the EIA professionals who have direct professional experience is more likely to understand changes in the environment and to be able to determine if the environmental management has improved overtime. Their responses may be responsible for the difference in the mean of the responses.

Based on this response, it is safe to conclude that environmental management in the Niger Delta has improved over time. Some scholars including Ugochukwu and Ertel (2008) [42], Phil-Eze and Okoro (2009) [40] and Uzoma and Ugbemena (2015) [45] reported several environmental management efforts within the study area It is interesting to note that environmental management in Nigeria has evolved over time especially due to oil production activities and as such, environmental management has steadily improved.

**Table 11:** Capacity to Implement EMP

Statement and ability to implement EMP goals				
		Frequency	Percent	Valid Percent
Valid	Yes	339	88.3	88.3
	No	37	9.6	9.6
	Don't Know	8	2.1	2.1
	Total	384	100.0	100.0
Capacity to fully engage in EMP implementation				
		Frequency	Percent	Valid %
Valid	Inadequate	74	19.3	19.3
	Very adequate	310	80.7	80.7
	Total	384	100.0	100.0

(Source: Field Work 2017)

**Capacity to implement EMP**

On whether the goals are stated in a way that the implementers are able to understand and implement them, a majority of the respondents 339 (88.3%) as shown in Table 11 affirmed that

the goals are stated in a way that the implementers are able to understand and implement them. organisations for the implementation of EMP. The capacity of organisations including community organisation for the implementation of EMP will contribute to effectiveness of EMP.

A few of the respondents (37) representing 9.7% indicated that the goals are not stated clearly. Others, (2.1%) do not know whether the goals are stated in a way that implementers are able to understand and implement them. As indicated by the majority of the respondents, it is safe to

conclude that the goals of EMP in the study area are likely to be stated in a way that implementers are able to understand and implement them. Clarity in statement of goals is very critical in achievement of the goals. When implementers are unable to understand and implement goals of any kind, the goals would never be achieved. Understanding goals is the first step in achievement of the goals.

The question on the adequacy of the capacity of the respondent's organisation to engage with EMP implementation was put to test, Table 11 shows that majority (310) of the respondents representing 80.7% indicated very adequate while only 74 (19.3%) indicated inadequate. It is reasonable by this response to conclude that the organizations have adequate capacity for EMP implementation. Capacity is very critical to the implementation of EMP. Previous studies including Ingelson and Nwapi (2014)<sup>[22]</sup> reported a remarkable lack of capacity amongst the stakeholders.

### Discussion

Researches have generally reported EIA follow up (under which EMP is practiced) as the weakest part of EIA in most jurisdictions. Sadler (1996) first verified the implementation of EMP in his global study of EIA and reported a weak implementation. Several other subsequent researches conducted in specific jurisdictions or industries reported similar outcomes. However, what is known about the extent of implementation and effectiveness of EMP in the oil and gas sector in Nigeria is very limited. This finding is critical to the problem of environmental degradation and conflict in the Niger Delta region in Nigeria. The goal of EIA is to achieve the sustainable management of the environment hence the desire to mitigate the impacts through the use of EMP. It has been reported that EMP implementation is the gateway to achieving the goals of environmental management and compliance to environmental regulations by a study in South

Africa (Makelane, 2016). This view point reinforces the understanding that while EIA's initial stages are critical in identify the impacts of proposed development (oil and gas production activities in this case) it is the implementation of the EMP that drives the achievement of the goal to protect the environment (Morrison-Saunders and Arts, 2004a)<sup>[32]</sup>. It is on the basis of this that all EIA approval conditions include the implementation of the EMP. The failure to adequately

implement the EMP do not only put the environment at risk but also violates such approval conditions. The first step towards effectiveness of EMP is the adequate implementation of the EMP. Inadequate implementation or outright non implementation of the EMP suggests a lack of effectiveness of EMP. Also, community participation is a critical component to determine the effectiveness of the implementation of the EMP. This has been emphasised in previous studies (Nieslony, 2004; Morrison-Saunders et al, 2007)<sup>[30]</sup>. The study assessed how often the communities play a role in EMP. Community plays key roles that contribute to the effectiveness of EMP; participating in the EIA process which leads to the identification of impacts; development of EMP and participation in monitoring and auditing amongst others. As those who are directly affected by the projects as host communities, their participation is critical to the outcome of the process as well as its

strengthening (Glasson et al., 2012)<sup>[18]</sup>. In Nigeria, public participation at the early stages of the process is a legal requirement provided in the EIA act (Ingelson and Nwapi, 2014)<sup>[22]</sup> however, there is no explicit provision for public participation during EMP implementation in the EIA act. Communities show of concern in the implementation of EMP by providing pressure against the proponent and the regulator has been considered a great determinant of the effectiveness of the process (Van Vliet 2000; Ross, 2002; Dik and Morrison-Saunders, 2002)<sup>[12]</sup>. This finding is a positive indicator to the credibility of the implementation and a pointer progressing towards effectiveness of EMP in the study area.

This is because it has already been established in literature that public participation improves transparency and accountability in the process (Morrison-Saunders et al 2007). On the adequacy of community involvement in any of the EMP processes, respondents indicated that the level of involvement is not adequate. This is consistent with the findings of Lawal, Bouzarovski and

Clark (2013)<sup>[26]</sup>. It also agrees with Uduok (2016) report that public participation is low in Nigeria. It equally reinforces claims by Munch-Petersen (2017)<sup>[28]</sup> who reviewed public participation in the context of Nepal made case that it is a general situation in developing countries.

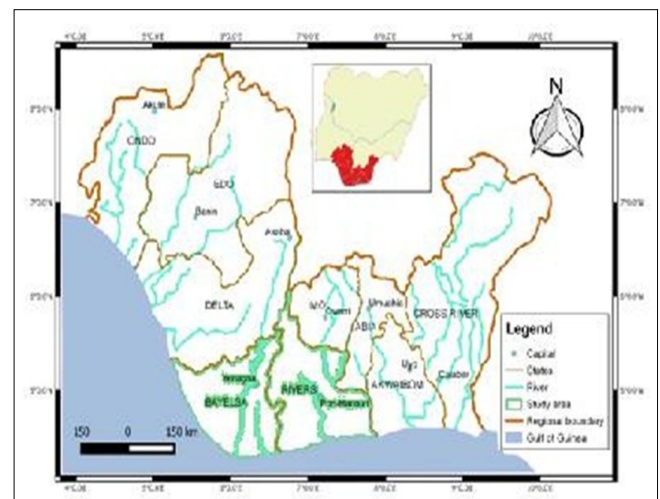


Fig 1: Niger Delta with Nigeria insert

### Conclusion

The study draws the following conclusion; There is inadequate community involvement in the implementation process, monitoring of EMP implementation is not carried out as required to adequately mitigate the impact of projects on the environment and drive towards sustainability of the region. However, the implementation has changed the ways projects affect the environment and have contributed to improvements in environmental management in the study area over time.

It is important to improve the implementation and effectiveness of EMP in the region since doing so would support the management of the social and environmental crises in the region. Efforts should be initiated to determine challenges associated with the implementation and effectiveness of EMP in the region to enhance the quality of the implementation process for the achievement sustainability in the region.

## References

1. AHAMMED AKMR. The Role of Monitoring and Auditing in the Environmental Impact Assessment (EIA) Process in Australia. Ph. D Thesis. Adelaide: University of Adelaide, 2007.
2. ALAMINIOKUMA, GI, AMONIEAH, J, AMAKIRI, ARC. Static Correction Parameters in the Low Plain of the Central Niger Delta, Nigeria. *Global Journal of Applied Sciences*,2011:17(1):123-9.
3. ANNA-SOFIE HO ANNE MH. Perceptions of public participation in impact assessment: a study of offshore oil exploration in Greenland. *Impact Assessment and Project Appraisal*,2014:32(1):72-80.
4. ANYADIEGWU CC. Overview of Environmental Impact Assessment of Oil and Gas Projects in Nigeria. *AFRREV STECH International Journal of Science and Technology*,2012:1(3):66-80.
5. BENNETT S, KEMP S, HUDSON MD. Stakeholder Perceptions of Environmental Management Plans as An Environmental Protection Tool for Major Developments in the UK. *Environmental Impact Assessment Review*,2016:56:60-71.
6. BOOTH KL. Methods for Conducting an On-Site Visitor Questionnaire Survey. Wellington: Department of Conservation New Zealand: 1991. Internal report No.102.
7. BORIS OH. The Upsurge of Oil Theft and Illegal Bunkering in the Niger Delta Region of Nigeria: Is There a Way Out? *Mediterranean Journal of Social Sciences*,2015:6(3S2):563-73.
8. CHANCHITPRICHA, C, BOND, A. Conceptualising the Effectiveness of Impact Assessment Processes. *Environmental Impact Assessment Review*,2013:43:65–72.
9. DADA OJ, AKPANDARA, O. Moving the EMP from the Shelf to the Field in Shell Petroleum Development Company, Nigeria. Paper presented at: IAIA Annual Conference, 2004 Apr: Vancouver, Canada.
10. DADIOWEI T. Environmental Impact Assessment and Sustainable Development in the Niger Delta: The Gbarain Oil Field Experience. *Niger Delta Economies of Violence Working Papers*, 2009, 24.
11. DE GROOT R, STUIP, M, FINLAYSON, M, DAVIDSON, N. Valuing wetlands: Guidance for valuing the benefits derived from wetland ecosystem services. *Ramsar Technical Report*, 2006, 3.
12. DIK H, MORRISON-SAUNDERS, A. The influence of EIA approval conditions on environmental practices. Paper presented at: IAIA'02 Assessing the Impact of Impact Assessment: Impact Assessment for Informed Decision-making, 2002 Jun 15–21: The Hague, The Netherlands.
13. EDUOK E. Review of Environmental Impact Assessment for Planning Projects in Nigeria: A Comparative Analysis with Policy Recommendations. *Asian Journal of Science and Technology*,2016:7(10):3662-7.
14. FASINA OA. Environmental Impact Assessment for Oil and Gas Projects: A Comparative Evaluation of Canadian and Nigerian Laws [dissertation]. [London, ON]: University of Western Ontario, 2016.
15. FISCHER T, JHA-THAKUR, HAYES. Environmental Impact Assessment and Strategic Environmental Assessment Research in The Uk. *Journal of Environmental Assessment Policy and Management*,2015:17(1).
16. FISCHER TB, NADEEM, O. Environmental Impact Assessment (EIA) Curriculum for Higher Education Institutions in Pakistan. IUCN, Pakistan, 2013.
17. GUBENA AF. Environmental Impact Assessment in Ethiopia: A General Review of History, Transformation and Challenges Hindering Full Implementation. *Journal of Environment and Earth Science*,2016:6(1):1-9.
18. GLASSON J, THERIVEL R, CHADWICK A. Introduction to environmental impact assessment. 4th ed. Abingdon: Routledge, 2012.
19. HEMBA S, PHIL-EZE PO. Implementation of EMP in EIA Follow-Up of Oil and Gas Projects in the Niger Delta Region of Nigeria: A Case of Bayelsa and Rivers States. *Journal of Environmental Research, Engineering and Management*,2021:77(1):96–108.
20. IBEAWUCHI IV. Environmental Impact Assessment of Oil And Gas Industry In Niger Delta, Nigeria: A Critical Environmental And Legal Framework Assessment. Masters Dissertation. Halifax: Dalhousie University, 2016.
21. IDIEGE DA. Politics of Energy Exploitation and Environmental Degradation in the Niger-Delta Region of Nigeria. *Journal of Pollution Effects & Control*,2017:5(2):100019.
22. INGELSON A, NWAPI, C. Environmental Impact Assessment Process for Oil, Gas and Mining Projects in Nigeria: A Critical Analysis. *Law, Environment and Development Journal*,2014:10:35.
23. INIAGHE PO, TESI, GO, INIAGHE, PO. Environmental Degradation and Sustainable Development in Nigeria's Niger Delta Region. *Journal of Sustainable Development in Africa*,2013:15(3):61-78.
24. ISAH AM. The Role of Environmental Impact Assessment in Nigeria's Oil and Gas Industry. PhD Thesis. Cardiff: Cardiff University School of Earth and Ocean Sciences, 2012.
25. KOINYAN AA, NWANKWOALA, HO, ELUDOYIN, OS. Water Resources Utilization in Yenagoa, Central Niger Delta: Environmental and Health Implications. *International Journal of Water Resources and Environmental Engineering*,2013:5(4):177-86.
26. LAWAL AM, BOUZAROVSKI S, CLARK J. Public participation in EIA: the case of West African Gas Pipeline and Tank Farm projects in Nigeria. *Impact Assessment and Project Appraisal*,2013:31(3).
27. MAKELANE H. The Impact Of Environmental Management Plans On Firm's Compliance With Government Regulations And Environmental Laws. *Environmental Management and Sustainable Development*,2015:5(1).
28. MUNCH-PETERSEN J. Public participation in environmental impact assessment of hydropower plants in Nepal: a context-specific approach. Colombo: International Water Management Institute (IWMI), 2017. IWMI Working Paper 175.
29. NADEEM O, HAMEED, R. Exploring the Potential and Constraints to Implementing the International Best Practice Principles of EIA Follow-up: The Case of Pakistan. *Journal of American Science*, 2010, 6(12).

30. NIESLONY C. An Evaluation of The Effectiveness Of Environmental Impact Assessment In Promoting Sustainable Development (Case Study Germany). M.Sc Thesis. Norwich: University of East Anglia, 2004.
31. NIGER DELTA DEVELOPMENT COMMISSION. NIGER DELTA DEVELOPMENT COMMISSION ESTABLISHMENT ACT (NDDC), 2000.
32. MORRISON-SAUNDERS A ARTS, J. Introduction to EIA follow-up. In: Morrison-Saunders A, Arts J, editors. Assessing impact: Handbook of EIA and SEA follow-up. London: Earthscan, 2004, 1-17.
33. ODEKU KO. Effective implementation of Environmental Management Plan for sustainable mining. *Environmental Economics*,2017:8(1):26-35.
34. ODJUGO AP. Valuing the cost of environmental degradation in the face of changing climate: Emphasis on flood and erosion in Benin City, Nigeria. *African Journal of Environmental Science and Technology*,2012:6(1).
35. ODJUGO PAO. Climate change and global warming: The Nigerian experience. *Journal of Sustainable Development and Environmental Protection*,2011:1(1).
36. OGUNBA OA. EIA systems in Nigeria: evolution, current practice and shortcomings. *Environmental Impact Assessment Review*,2024:24(6):643-60.
37. OJAROKUTU V, GILBERT, LD. Checkmating the Resurgence of Oil Violence in Niger Delta of Nigeria [Internet],2010 [cited 2015 Jul 19]. Available from: [www.iags.org](http://www.iags.org)
38. OKAFOR O. The State Of Environmental Monitoring In Nigeria and Ways to improve it: Case Study Of Niger Delta. M.Sc Thesis. Wageningen: Wageningen University, 2011.
39. ONOSODE GO. Selected Speeches and Presentations (1995 – 2001). In: Chokor, B, editor. Environmental issues and Challenges of the Niger Delta Perspectives from the Niger Delta Environmental Survey process. Lagos: CIBN Press Limited, 2003.
40. PHIL-EZE PO OKORO, IC. Sustainable biodiversity conservation in the Niger Delta: A practical approach to conservation site selection. *Biodivers Conservation*,2009:18(5):1247–57.
41. SINGH S KUSHWAH, S, SINGH, VB, DAIPURIA, PO. Factor Affecting the Participation of Rural Women in Agricultural Activities. *Indian Research Journal of Extension Education*,2015:15(1).
42. UGOCHUKWU CNC, ERTEL, J. Negative Impacts of Oil Exploration on Biodiversity Management in the Niger Delta area of Nigeria. *Impact Assessment and Project Appraisal*,2008:26(2):139-47.
43. UNABIA OC. An Analysis of the Amnesty Policy of Nigerian Government on Niger Delta crisis [dissertation]. Malmo: Malmo University, 2010.
44. UNITED NATIONS ENVIRONMENT PROGRAMME. Environmental Assessment of Ogoni Land [Internet],2011 [cited 2015 Nov 29]. Available from: <http://www.unep.org>
45. UZOMA CA, MGBEMENA, OO. Evaluation Of Some Oil Companies In The Niger Delta Region Of Nigeria: An Environmental Impact Approach. *International Journal of Environment and Pollution Research*,2015:3(2):13-3.
46. VAN VLIET N. Participatory vulnerability assessment in the context of conservation and development projects: a case study of local communities in Southwest Cameroon. *Ecology and Society* [Internet],2010 [cited 2024 Sep 8]:15(2):6. Available from: <http://www.ecologyandsociety.org/vol15/iss2/art6/>
47. VERONEZA FA, MONTAÑO, M. EIA Effectiveness: Conceptual Basis for An Integrative Approach. In: Impact Assessment in the Digital Era, Proceedings of the 35th Annual Conference of the International Association for Impact Assessment, 2015, 20-21: Florence, Italy.
48. WORLD BANK. Infrastructure at the Crossroads: Lessons from 20 Years of World Bank Experience. Washington, DC: World Bank, 2006.
49. YAKUBU HO. Addressing Environmental Health Problems in Ogoniland through Implementation of United Nations Environment Program Recommendations. *Environments*,2017:4(28).