

An Assessment Of The Adequacy Of The Compensable Value Of Damages Due To Oil Contamination To Wetlands In Ogoni-Land, Niger Delta, Nigeria.

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ABSTRACT

The valuation of any property follows a process which if followed results in a reasonably consistent determination of compensable value. While the valuation of properties usually traded in the market is reasonably rampant and within the everyday pre-occupation of the professional valuer, the valuation of contaminated land occurs occasionally and poses serious challenges to the valuer. The issue of contamination by oil pollution has been very rampant in Ogoni land of the Niger Delta wetlands of Nigeria and valuers called upon to assess damages resulting there from have had to adopt valuation processes prescribed for marketable real properties. In most cases, the value of the ecosystem goods and services that exist in the wetlands are neglected. This study was aimed at assessing the adequacy of the compensable values of damages due to oil contamination to wetlands in the area. Purposive sampling technique was adopted in the study, where the valuation professional firms practicing in the Ogoni-land constituted the units of analysis. A sample size of 120 firms were drawn from the total of 172 registered firms in the area. Structured questionnaire was developed and administered to these firms to elicit information on the valuation methods. A section of some affected communities were also interviewed on their views on compensations paid. It was discovered that there is no uniformity among valuers in the valuation of contaminated wetlands. Some valuers adopt the pre-determined compensation rates method, while others adopt the investment method with no clear

indication of how they assemble comparable data required for the method. Both methods of valuation, as discovered, result in paltry compensation. The methods, however, do not comply with international best – practices. The resulting inadequate compensation leads to dissatisfaction of the land owners, thereby creating conflicts between them and the acquiring authorities. A number of measures have been advanced for improvement in the valuation activities in the area, chief of which is recognizing the physical composition of wetlands and adopting appropriate guidelines that incorporate both the upland and wetland components in the valuations.

Key words: Compensable value, oil pollution, marketable real properties, uplands, wetlands,

I. INTRODUCTION

Contamination of natural resources through oil spillages resulting from the activities of oil prospecting and producing companies always has major impact on the environment into which it is released and may constitute ecocide. Oil spillages contaminate lands, streams, rivers, groundwater etc into which it flows, it is toxic and harmful to plants and animals and a threat to their habitats. This attracts compensation to those whose properties are affected which requires assessment by the valuers in order to determine the appropriate value. The affected persons from oil spillage in Ogoni land most times show dissatisfaction over compensation paid by oil explorers and producers in the area, such dissatisfaction often leads to restiveness. The assessment is undertaken by

valuers who are the only authorized professionals to place value on any kind of property in Nigeria. However, the paltry compensation resulting from this assessment had often aggravated the deprivation suffered by the Ogoni people as a result of its inadequacy. Hence, this study aims to assess the adequacy of the compensable value of damages due to oil contamination to wetlands in the Ogoni-land, Niger Delta Nigeria.

In the United Kingdom, the approach to contaminated land as the first industrialized country in the world, where it is estimated that over 370,000 sites covering an area of 400,000 hectares are potentially contaminated land, a legacy of the industrial revolution and the mining industries. To date, some 67,000 hectares have been identified with over 34,000 hectares successfully remediated in UK alone. The Parliamentary Office of Science and Technology in its report Contaminated Land (1993) estimated between 50,000 and 100,000 potentially contaminated sites across the United Kingdom, with estimates of the extent of land ranging between 100,000 and 200,000 hectare. However, in the United State of America, the year 1984 marked the origin of studies on the effects of contamination on real property in USA when (Campanalla, J., 1984) paper was published. In the United States of America General Accounting Office estimates that there may be as many as 650,000 underutilized or abandoned properties across the country due to perceived or actual release of hazardous materials. According to President Bush, (April 5, 2001); “Who stated that ‘On the brownfield’s of yesterday, we will build the green industries of tomorrow’. However, since the iconic 1969 oil well blowout in Santa Barbara, California, there had been at least 44 oil spills, each over 10,000 barrels (420,000 gallons), affecting U.S. coastal environment. The largest of which was the 2010 Deepwater Horizon well blowout in the Gulf of Mexico. This largest accidental oil spill in history began in the Gulf of Mexico on April 20, 2010, after a surge of natural gas blasted through a cement well-cap that had recently been installed to seal a well drilled by the British Petroleum. Deepwater Horizon oil platform incident is referred to as the worst oil contamination disaster in history. There exist a wide variation when the method of valuation of contaminated land employed in the United States of America and United Kingdom is compared to that of the developing countries such as Nigeria, this is due to their long history of industrialization and the need to re-use contaminated (Brownfield) land on a fairly extensive basis. The earlier introduction of

environmental legislation in those countries made them a good reference guide.

In Nigeria, an estimated 5 to 10% of the nation’s mangrove ecosystems have been wiped out by oil contamination. In agrarian communities like Ogoni-land, often a year's supply of food has been destroyed instantaneously during oil spillage. Conflict in the Ogoni-Land, Niger Delta Nigeria, rose sharply in the early 1990s resulting from deteriorating environmental conditions for local inhabitants stemming from major oil spills and other petroleum extraction activities of foreign big oil companies and their contractors without payment of adequate compensation. Majority of the Ogoni people, feel they are being exploited and their ability to earn a living on their own land undermined, besides being paltry compensated or sometimes no-compensation at all received from oil companies operating there.

A spectacular wetland contamination due to oil spill happened in Bodo town of Ogoni-land, when in 2008, two massive oil spills from Shell oil pipeline spilled at least 560,000 barrels of oil into the community's land. The oil spills ruined fishing town of Bodo due to its contamination impact. Thick black oil leaked into rivers and creeks for weeks, killing fish and robbing people of their livelihoods, over 1000 hectares of mangroves and all of the marine life which the Bodo community relied on to survive was destroyed with no compensation paid. Ogoni-land has suffered closures of beaches, parks, waterways, and recreational and commercial fisheries resulting in hunting and boating restrictions, crippling the local economies both in the short and long term, however, all these losses are expected to be compensated for through the engagement of professional valuers being the only professional organ approved by the Federal Government of Nigeria and solely empowered to assess a property for valuation purposes, the inadequate compensation resulting therefrom is suspected to be the bane of restiveness in the Ogoni-land.

Since professional valuers in Nigeria are the only professionals authorized by law to determine value of property (whether real or personal) of any definition, it follows that when Oil contamination occurs, they are usually consulted to determine the compensable value which usually equates to the damages suffered due to the oil contamination. To date, valuers have relied on the property based methods of valuation that they have been trained especially, the valuation methods adopted for compulsory acquisition cases, and neglecting to borrow more robust valuation methods used by environmental or ecological

economists, this always result in inadequate compensation to the land owners. This study thus focus to assess this methodological gap that exists in valuation practice in the Ogoni-land, Niger Delta Nigeria.

II. LITERATURE REVIEW

The valuation/appraisal practices in several parts of the world where oil spillages has caused contamination, land and other laws affecting land rights, the concept of ecosystem and the valuation of environmental goods and services in wetlands were also reviewed. Kinnard (1998), stated that the literature on the valuation of contaminated properties in the United States of America (US), United Kingdom (UK) and New Zealand (NZ) dated from 1994 with particular methods recommended in the UK in 1997 (Kennedy, 1997). The experience and practice of the US and UK authors is generally dominated by commercial properties in urban neighbourhood. The Ogoni-land in the Niger Delta Region of Nigeria is basically a rural area and thus requires a special consideration in the application of known valuation methods. As Kakulu (2008) stated, local practices and methods are suited to their local reality though they may not be suitable for the international community (as land policies differ).

As opined by Denner (1991), cited by Syms (1997), ‘Contaminated land is one of the many complex issues to be addressed by all those involved in ensuring protection of human health and the environment. It should be considered both in terms of its prevention and as part of the overall assessment of land for a variety of purposes and users’. Unfortunately, there is no generally accepted definition of the term ‘contamination’ across the different disciplines that are concerned with the environment. The Australian National Environment Protection Council Service Corporation’s National Environment Protection; Assessment of Site Contamination Measure (1999), defines contamination as; ‘The condition of land or water where any chemical substance or waste has been added at above background level and represents, or potentially represents, an adverse health or environmental impact’. In this study, this latter definition will be adopted. Bond (2001), states that; ‘The valuation of property affected by

land contamination is of great interest, not only to the valuation profession, but also to the stakeholders of contaminated lands’.

In Valuation Theories, Fanning et al. (1994), stated that; Appraisal is concerned with the estimation of value, which may be approached on three distinct theoretical levels namely, value theory, valuation theory, and appraisal theory. Valuation theory focuses on the techniques or methods through which value is measured, estimated, or forecast. Appraisal theory is the logical process linking valuation theory to value theory, as applied to a land put to a specific use. The IVSC (2003), states that; ‘Valuation is an opinion of the price that would be obtained in a transaction or the benefit that would accrue to the owner of an asset based on a stated hypothesis’.

Valuation bases may be any of the following;

- 1) Market Value.
- 2) Existing Use Value
- 3) Fair Value
- 4) Value in use;
- 5) Alternative Use Value;
- 6) Negative Values;
- 7) Depreciated Replacement Cost;
- 8) Market Rental Value
- 9) Market Value

The most commonly sought valuation basis, is the market value as defined by the IVSC (2007), which states that value is an economic concept referring to the price most likely to be concluded by buyers and sellers of a good or service that is available for purchase and that value is not a fact, but an estimate of the likely price to be paid for goods and services at a given time in accordance with a particular definition of value. The economic concept reflects a market’s view of the benefits that accrue to one who owns the goods or receives the service as of the effective date of the valuation. Market here, refers to an environment where goods, services and commodities are traded between buyers and sellers through a price mechanism.

Common valuation methods used include; Comparison Cost and Income Capitalization. Pagourtzi et al (2003), grouped valuation method into 2, namely; Traditional and Advanced methods, as seen in the Table 1.

Table 1: Two groups of Valuation Methods

Traditional Methods	Advanced Valuation Methods
Comparable method	Artificial neural networks (ANNs)
Investment/income method	Hedonic pricing method
Profit method	Spatial analysis methods
Development/residual method	Fuzzy logic

Contractor’s method/cost method	Autoregressive
Multiple regression method	Integrated moving average (ARIMA)
Stepwise regression method	

Source: Adapted from Pagourtzi et al (2003)

There are three internationally recognized methods of property valuation and they are all based on the principle of market comparison (Wyatt, 2007). The principle of comparison encapsulates the basic economic principles of price equilibrium, anticipation of benefits or substitution. The three methods are;

- i) Sales Comparison or Market Approach.
- ii) Income Capitalization or Income Approach.
- iii) Replacement Cost or Cost Approach.

While these three methods are internationally adopted, there are now some advanced methods of valuation that are now emerging and being promoted by academics but fast gaining acceptance in the professional world. We shall consider some theories that will position this study in the correct sphere of discussion. Beginning with the land tenure and the impact of the nation’s land policy, the compulsory acquisition of land was discussed to show how land is usually acquired for oil/gas operations and how compensation is usually assessed. It was found that the methods of valuation used for valuing land that is to be compulsorily acquired is being used to assess compensation on contaminated lands in Nigeria.

Compulsory Acquisition:

Compulsory acquisition as prescribed by the Land Use Act (LUA) 1978, as promulgated by the Federal Government of Nigeria, refers to the power of government to acquire private rights in land without the willing consent of its owner or occupant in order to benefit society. Several authors have justified the need for governments to resort to compulsory acquisition of interests of land in developing economies (Sandelowski 1995, Ogedengbe 2007, Kakulu 2008, Otegbulu 2009). All these authors highlight the basis of assessing compensation payable for compulsory acquisition and emphasize the fact that the process is statutory and that the enabling laws do provide the valuation methods to be adopted. Most of the published authors on the valuation of contaminated properties in the UK agree that there is need for proper methodology and procedure, though the best-practice valuation guidelines adopted appears to be similar to the United States’ practice.

However, in the Ogoni-landwetland contamination context, there is dearth of literature on the subject of valuation of oil contaminated

properties, despite the widespread contamination suffered from oil spillages. Attempts to value any polluted land have adopted methods prescribed for the compulsory acquisition of land in Nigeria, (Ogedengbe, 2007a and Otegbulu, 2009).

Valuation of an ideal, non-contaminated property involves the quantification of an understanding of the various factors influencing value, like the market, legal impacts, physical constraints, planning regime, availability of finance, the demand for the product and the general economic influences affecting value. It is noteworthy that these factors may not hold sway in the Ogoni land when valuation of land contamination due to oil pollution is concerned.

In order to reduce liability in the United States of America, the appraiser must understand the impacts that contaminants can have on the property and how their effects on market value should be estimated. Jackson, (1998), opines that ‘appraisers should keep themselves acquainted with the law and changes in the law so far as his skills are affected. In the United States of America, the primary legislation of contaminated land is the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) which dates from 1980 and the United States of American Environmental protection agency. The law states that before a valuation of contaminated land or property can be done, the environmental risk assessment must be carried out. Also, the law requires the valuer to complete an environmental review check list form or a similar property condition questionnaire at the time of a required field inspection leading to the completion of an appraiser report. Without appropriate qualifier, the valuer may be exposed to unnecessary liability; such guideline is not available for use by valuers in assessing contaminated properties in Nigeria. Ebeku (2001b) posited that compensations for land acquired under the act are now paid to the governor of the state where the land is located, and not to the community Headman as before the Act. Thus the communities hardly receive any portion of the money paid or have any useful thing done for them out of the compensation. Also when any pollution occurs and the IOCs accept responsibility, they now only pay compensation for surface rights like farm crops and not for the land. Such compensations for surface rights are rarely fair and adequate and have since been noted as one of the

causes of crises in the Ogoni-land, Niger Delta Nigeria.

Commentators on compensation assessment have stated that while buildings are valued using the replacement cost method of valuation, economic crops, trees and other structures, are valued using predetermined rates commonly called the OPTS (Oil Producers Trade Section of Lagos State Chamber of Commerce and Industry) Rates. (Ogedengbe, 2007a, Akpan, 2007b) (Nuhu, 2008, Kakulu, 2008) and (Otegbulu, 2009). These commentators appear to have taken no cognizance of the Minerals and Mining Act, 2007 provisions. Omeje (2006) says that it is the Land Use Act that has made a theoretical distinction between land which is a property of the state and investments in land which are privately owned and that the oil bearing communities are in a vulnerable position as they can only press for compensation for economic investments they might have made on such land, which is usually grossly underestimated. George (2009), reasons that the fixed rates contained in the OPTS rates produce a compensation that is negotiable, though in practice, the bargaining position of the parties to the acquisition are hardly comparable and thus makes negotiations unbalanced. It is noteworthy that the

OPTS is a trade group in the Chamber of Commerce and Industry with membership drawn from the Oil and Gas multinational Companies. This means that operators in the Industry decide what they should pay as compensation before they even commence an acquisition.

III. MATERIALS AND METHODS

The Ogoni-land in Rivers State, Niger Delta region of Nigeria situates at the highlighted geographical coordinates: latitude $4^{\circ} 3' 0''$ N and $4^{\circ} 7' 0''$ N and longitude $7^{\circ} 1' 0''$ E and $7^{\circ} 27' 9.8''$ E respectively. It is relatively located in an area along the eastern edge of the Niger Delta region of Nigeria. It is to the northeast of the Imo River, as the city of Port Harcourt the Rivers State capital lies to the west, bounded on the south by the coastal sand plains (occupied by the Andoni people), and on the west by the Aba-Port Harcourt highway. The area was once covered by a thick rain forest and swamp but has suffered from deforestation and contamination due to oil pollution after decades of aggressive oil exploitation and exploration. The map of Ogoni-land is as shown in the Figures 1 and 2.

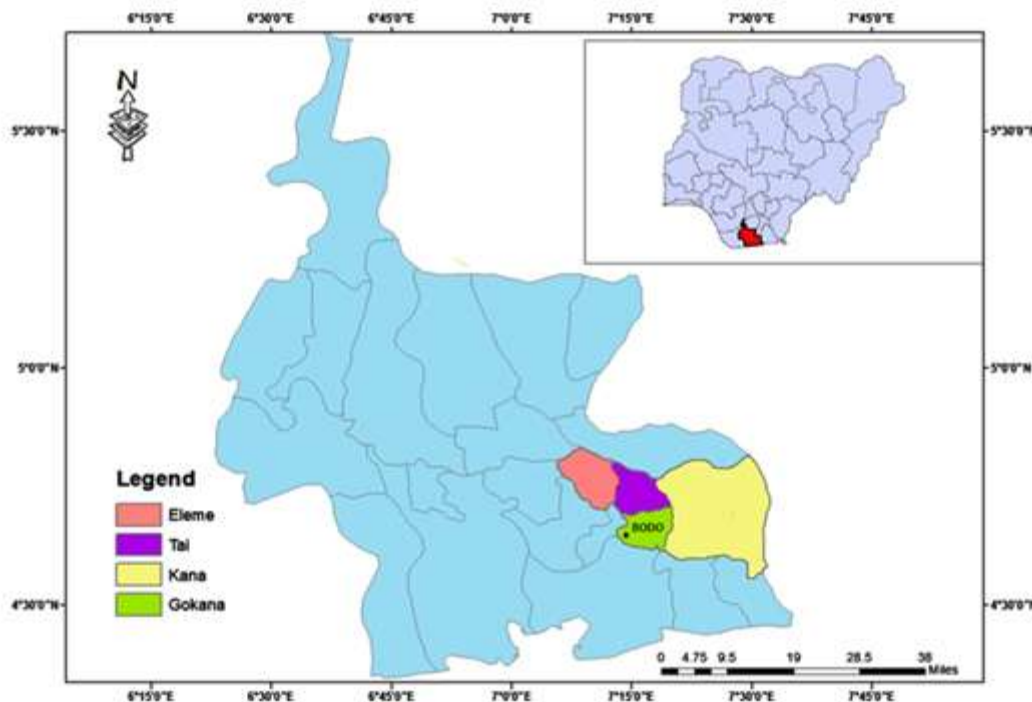


Figure 1: Map of Rivers State showing the four L.G.As of the Study Area.

Source: Google Map (2020)

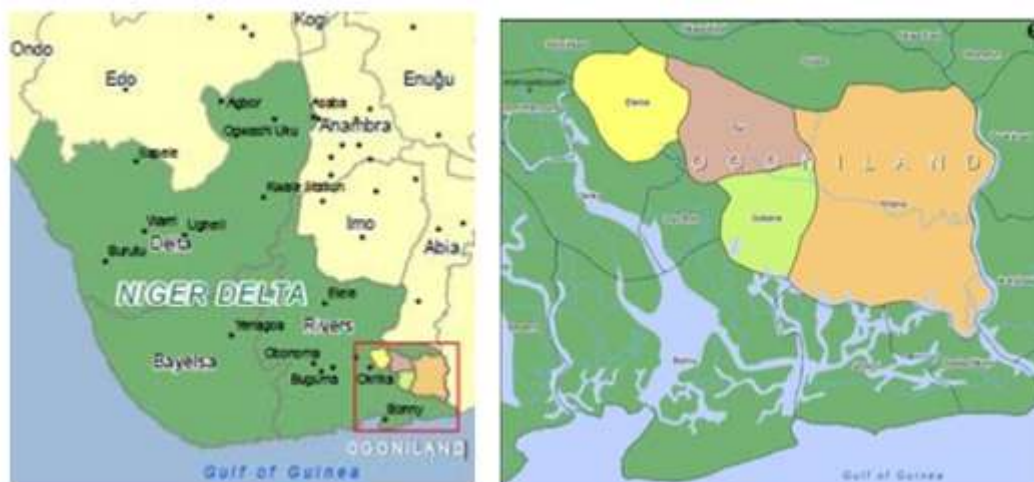


Figure 2: Map of Ogoni-land showing its position in the Niger Delta Region.

Source: Google Maps. (Accessed,24/04/2020).

Ogoni-land is divided administratively into four local government areas: Eleme, Gokana, Khana, and Tai. Geomorphologically, the land surface can be grouped into three main divisions: the freshwater, the mangrove swamps, and the Coastal Sand ridges zone, with the annual total rainfall varying between 5000mm at the coast to about 2540mm landwards. Average temperatures in the Ogoni-land area range between 77.0°F in August to 81.0°F in March and April. It has abundant of fertile soil and the delta plateau. Her economy is based largely on fishing and subsistence agricultural production of foods such as yams and cassava.

The mixed method approach was considered most suitable to meet the objectives of this research. A questionnaire survey was conducted among practicing firms of valuation professionals to assess the adequacy of the compensable value of damages due to oil contamination to wetlands in the ogoni-land being the main concern of this study. (The Estate Surveyor and Valuers being the only professional body allowed to carry out valuation in Nigeria as prescribed by law), document were analyzed and interviews were used to gather more in-depth data on the practice of valuation for damage assessment on contaminated lands in the Ogoni-land, Niger Delta Nigeria, both the questionnaire survey and semi-structured interviews were conducted concurrently. A sample size of 120 professional valuation firms that has carried out valuation of contaminated lands in Ogoni-land was purposely

selected, out of the 172 firms registered with the Nigerian Institution of Estate Surveyors and Valuers Rivers State chapter. 65 firms responded out of which 61 completed questionnaire, representing a response rate of approximately 52% useable. The other 4 were discarded due to incompleteness. This response rate compares favourably with that of (Black, Akintoye and Fitzgerald, 2000) where a response rate of 25% was considered adequate for construction industry research., for this research only a basic analysis of the data without NVivo was used.

IV. RESULTS

The existing valuation methods used in assessing oil contaminated wetlands in use in Ogoni-land was examined. In view of the observations and the expressed need to use other valuation methods. In order to elucidate the reason for the inadequate compensation sum arrived at during oil contaminated properties assessment, it thus becomes necessary to examine the existing valuation methods used by the respondents, they were asked to indicate the type of value sought in such valuation exercise. To do this, certain types of values and their frequency of usage were shown on the questionnaire, these include; Market Value (MktValue), Impaired Value, Statutory Value (StatValue), Investment Value (InvestValue), and Special Value.

Table 2: Types of Value Sought and Frequency of Usage when Valuating Oil Contaminated Wetland

Types of Value	Never	Almost never	Occasionally	Almost Every time	Every time
CompSal	29 47.5%	7 11.5%	13 21.3%	10 16.4%	2 3.3%
DepRep	21 34.4%	5 8.2%	17 27.9%	8 13.1%	10 16.4%
PreRate	6 9.8%	5 8.2%	6 9.8%	32 52.5%	12 19.7%
Incmet	29 47.5%	14 23%	11 18%	6 9.8%	1 1.6%
Subdivment	45 73.8%	11 18%	5 8.2%	0 0%	0 0%
ConValmet	43 70.5%	12 19.7%	4 6.6%	2 3.3%	0 0%
LVExtmet	40 65.6%	12 19.7%	7 11.5%	1 1.6%	1 1.6%
DCFmet	40 65.6%	13 21.3%	6 9.8%	2 3.3%	0 0%
HPMet	48 78.7%	8 13.1%	4 6.6%	1 1.6%	0 0%

Source: Field Data (2020)

From their response as shown in the Table 2(38%) representing 23 respondents said they have never used the comparative sales method of valuation; 14 (23%) said they very often use the comparative sales method; 15% (9) said they rarely use the method; 8 (13%) said they sometimes use the method; while 7 (11%) said they always use the method. These responses are shown in Table 5.6 above. Similarly, 22 (36%) stated that they never use the depreciated replacement cost method to value contaminated land; 17 (28%) said they sometimes use the method; 9(15%) said they always use the method; 8(13%) stated that they often use the method; while 5(8%) said they rarely use the method to value contaminated land as shown in Table 2.

Moreover, 16(26%) said they often use the Pre-determined compensation rate method of valuation to value oil contaminated wetlands; 13(21%) said they always use this method; another 13(21%) also said they never use the method; 12(20%) said they sometimes use it; while only 7(12) said that they rarely use the method as shown in Table 1 above. Likewise 22(36%) said that in valuing contaminated land, they never use the Income Capitalization Method; 15(25%) said that they often use this method; 13(21%) said they sometimes use this method; 8(13%) said they rarely use this method; while 3(5%) stated that they always use the method.

Similarly 40 respondents (66%) stated that they have never used the Subdivision Development Valuation Method to value contaminated land. 15

respondents (25%) said they rarely use the method; 4 respondents (6%) said they sometimes use this method; while 2 respondents (3%) said they often use this method. No respondent stated that they always use the method.

On the use of the Land Value Extraction method of valuation, 36 respondents representing 59% said they never use this method; 14 respondents (23%) said they rarely use this method; 10 respondents (16%) said they sometimes use the method; while only 1 respondent representing 2% said they often use the method. No respondent stated that they always use this method.

On the use of the Discounted Cash Flow technique, 64% representing 39 respondents stated that they never use this method to value contaminated land; 18% (11) said they rarely use this method; 13% (8) said they sometimes use the method; while 5% (3) stated that they often use the method. No respondent indicated always using the method.

On the frequency of use of the Contingent Valuation method, 44 respondents (72%) said they never use the method; 8 (13%) said they rarely use the method; 6 (10%) said they sometimes use the method 2 (3%) said they often use the method; while only 1 (2%) said they often use the method.

Finally they were asked about the use of the Hedonic Pricing Model and 79% representing 48 respondents stated that they never use this method of valuation before; 18% (11) said they rarely use this method; while only 3% (2) said they sometimes use this method. No respondent stated

weather they often or always use the method of valuation.

To be able to summarize these responses and identify the main valuation method being used,

the response frequencies are ranked using the Relative Importance Index (RII) suggested by Lim and Alum (1995), as follows:

Table 3: Ranking of Valuation Methods

Valuation Method	Never	Rarely	Sometimes	Often	Always	RII	Rank
Comparable Sales	23	9	8	14	7	0.51	3 rd
Depreciated Replacement cost Method	22	5	17	8	9	0.52	2 nd
Pre-Determined Compensation Rates	13	7	12	16	13	0.629	1 st
Income Capitalization Method	22	8	13	15	3	0.498	4 th
Subdivision Development	40	15	4	2	0	0.295	8 th
Land Value Extraction method	36	14	10	1	0	0.32	5 th
Discounted cash flow	39	11	8	3	0	0.318	6 th
Contingent valuation	48	8	6	2	1	0.298	7 th
Hedonic Pricing Model	48	11	2	0	0	0.249	9 th

Source: Fieldwork 2020

From Table3, it is obvious that the respondent valuers generally adopt the pre-determined compensation rates as a valuation method of choice when valuing oil contaminated wetlands. It is remarkable to note that the questionnaire respondents only chose the Income Capitalization method as a 4th choice.

Having determined the valuation method of choice among valuers and shown that there is no relationship between the methods being used and the value sought in oil contaminated wetlands damage assessment.

Stakeholder Satisfaction with Assessed Damage

To be able to ascertain the satisfaction or otherwise of the different stakeholders, the respondents to the questionnaire were asked to rate the level of satisfaction of the stakeholders on a 5-point Likert scale ranging from Very Dissatisfied, Not Satisfied, Undecided, Satisfied, to Very Satisfied. Figure 3 shows a bar chart of the responses.

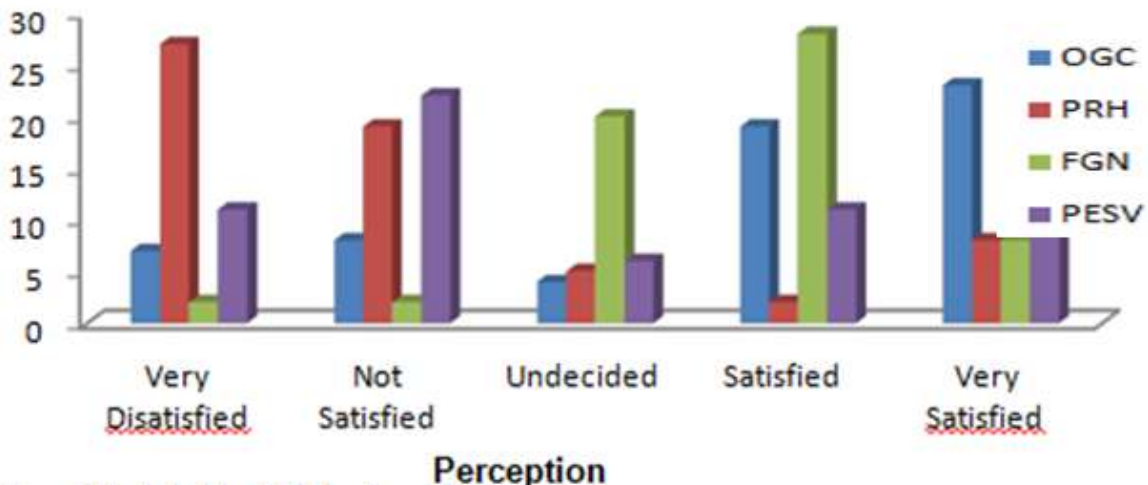


Figure 3. Stakeholder Satisfaction with Damage Assessment

Source: Fieldwork, 2020

The full import of these assertions is that the expert valuers feel that only the IOCs and their government partners are very satisfied with the current damage assessment regime and since the landowners have to fight to wrestle for damages payment from the polluters, they are very dissatisfied.

V. DISCUSSION OF FINDINGS

In assessing the adequacy or satisfaction of compensation received by property owners in oil contaminated wetland assessment in the Ogoni-land, Niger Delta Nigeria. The result indicates that valuers use the pre-determined compensation rates method in compulsory acquisition assignments, as dictated by the enabling law in assessing Oil contaminated properties thus neglecting the values of wetlands goods and services damaged. Though it is not clear how the rates adopted were determined.

The findings indicate that when determining the damages due to contamination valuers said they determine a special value adopts the use of a valuation method prescribed by statute, termed Pre-determined compensation rates valuation method. While the origin and the basis of determination of the rates is unknown, the government policy makers and the IOCs appear very satisfied with the resulting values from the application of this method of valuation, but the landowners appear very dissatisfied. The adoption of the OPTS pre-determined compensation rates for valuation by the IOCs confirms their close affinity to the Federal Government. The government who should be the regulator is also an equity holder in the IOCs through their Joint Venture Agreements and thus controls the practical operations of the IOCs and has to approve any compensation payment through the NNPC's Department of Petroleum Resources. A corollary of this joint-ownership of IOCs is the exclusion of the use of a free market determined valuation methods in the valuation of contaminated wetlands. Because the government acts as both the regulator and the operator. This practice negates all professional explanations and does not meet the minimum international standard recommended by either the IVSC or the World Bank.

There appears to be no uniformity among valuers in the valuation of contaminated wetlands, as some valuers adopt the pre-determined compensation rates method. Where market comparables do not exist, there can be no basis for adopting market reliant methods of valuation. For such a typical rural wetland like Ogoni land, with predominant wetlands having various species of crops, trees, forests which are habitat to different

species of animals, birds etc. These peculiar feature of ecosystem goods and services call for peculiar valuation approach as against normal (open market valuation approach) which is meant for residential or other properties valuation prevalent in the urban area or predetermined rate as set out sequel to the Land Use Act (1978), in order to achieve an assessment leading to adequate compensation regime, that is capable of satisfying land owner in the Ogoni-land's oil contaminated properties.

VI. CONCLUSION AND RECOMMENDATIONS

The inadequate compensation stemming from currently used assessment methods by the valuers remains the major cause of dissatisfaction and conflict between the oil industry operators and the Ogoni people. The low compensation resulting from the adoption of the present valuation methods create conflicts between acquiring authorities and land owners, because the law presently determines the purpose, basis, and method of valuation, thereby discrediting the professional valuers' competence, in the case for compulsory acquisition. The valuation process as applied, constitutes only the mathematical process of multiplying quantities of economic crops and trees by the prescribed compensation rates, assuming that valuation is an exact science of numerals only.

The Ogoni-land issue is a composite of man-made developments and natural goods and services that when contaminated all need to be valued, though valuation by its nature does possess some shortcomings. Valuation of man-made developments have been practiced by valuers who have been trained in normative economic models, but the valuation of environmental goods and services have been undertaken by ecologists who marry economic and welfare models in deriving their methodologies. Thus, the valuers need knowledge of wetland economics to be able to value it appropriately. These weaknesses results in inadequate compensation received by the property owners and a source of restiveness in the area.

There is need for the Nigeria Institution of Estate Surveyor and Valuer (NIESV), and Estate Surveyor and Valuation Registration Board of Nigeria (ESVARBON), to produce a wetland valuation guideline incorporating typical assessment for the goods and services found in such contaminated wetland terrain so as to result in adequate compensation.

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