ABSTRACT

This research work examined the various uses of the high sea andsea beds, the various activities that are carried out in these maritimeenvironments, the bodies and agencies that are responsible for implementing therelated maritime laws and policies as it affect the global trades, and hence,produce a formal judgment on how these uses have benefited the maritimeadministration. This work further surveyed the High Sea and how maritimeadministration has influenced its activities positively and negatively, in linewith different types of vessels for high sea transportation, Trades and relatedmaritime investment, laws and treaties formulated for protection of maritimeenvironments. It finally analyzes the local content with the internationalbenchmark by carrying out survey using the Nigerian High Seaconcession area (Atlantic Ocean) and maritime zones under international lawsthat are relevant to the research population. Theresearcher conducted a GPS analysis on multinational oilwells for CHEVERON, SHELL, ENI (AGIP), and MOBIL at their different oil tankfarms. A field research was made on the satellite well and platform for oilexport. Manifolding model was proposed for oil drilling and export. With ananalysis based on the findings, it was empirically found that there exist about92% profit margin and an added reduction in overall environmental pollution ifthis proposal is adopted.

CHAPTER ONE

GENERAL INTRODUCTION

1.1 BACKGROUND OF THE STUDY

International perspective

Since 1688, few ships and their Naval Architectural pattern ledthe Lloyd's of London to form classification societies. The first register,printed in 1764 and for use in year 1764-1766, was published in order to giveboth underwriter and merchant an idea of the condition of vessel they eitherowned, insured or chartered[1].

In years that followed, insurance brokers and services of shipsurvey came upstream to arrest the situation of poorly maintained and badlyoperated vessels and to also contend with the situation of cargo losses.

In this modern age, the quest for economic growth, balance oftrade indices and vast undersea oil discoveries had led maritime nations andother private practitioner into capital intensive venture such as:

Maritime transport, ship brokering cruse ship supply,dry-docking offshore minerals exploration, tanker operations oil and gasproductions, seafarers training, trawler fishing activities, freightforwarding, sea environmental pollution control, import and export management,maritime safety and security services etc.

In order to ensure convenience, safety, secured economy andprofit maximization of the above ventures, there is great need for activitydefinition and jurisdiction agreement within the

comity of Maritime states[2].It is on this note that several initiatives including those of theInternational Maritime Organization (IMO), the North Atlantic TreatyOrganization (NATO), the European Union Naval forces (EUNAVFOR) and theinternational oil pollution and compensation fund committee in their combinedeffort has brought about several United Nation Convention on the law of the sea(UNCLOS) and encourage all safety of life at sea (SOLAS) contracting governmentto participate in long range identification and tracking (LRIT) of flag stateand non- flag state vessel, for safer and unified maritime administration.

Most importantly, the periodic evolution from the (IMO)conventions, Hamburg rule on carriage regime, Rotterdam rule on carriage ofwholly or partly by sea, the United States Congress act of 1972 on ocean dumping,the 1972/1974 Oslo and Paris conventions on international treaty on thecontrolling of marine pollution etc, had all served as legal benchmarks,operations standards and principles that had guided maritime operations[3].

The uses of different high seas of the world like: theMediterranean sea, the Caribbean sea, the South China sea, Gulf ofMexico, Gulf of Guinea, the Baltic sea, the Persian gulf, and the wider Indianwaters; together with their geometric defined seabed has existed since the beginningof ages. On the other hand the significant administrative laws, the legislativebills and policies, the convention acts and treaties; for the safe voyage inthese maritime communities has not ceased to evolve[4].

The high sea is a body of saline water (generally a division ofworld ocean) partly or fully enclosed by land. The seabed which naturallydefines the underwater geometry of the planet's hydrosphere is the land foundat the bottom of this sea[5] from the earliest starting point of history, seaand seabed have different naturally and territorial characteristics thatdetermine their uses, this includes:

1. Sea surface area and dept.
2. Seachannel draft and shape.
3. Subsea geological formation and mineral formations.
4. Seabed textures and porosity
5. Sea location and freezing components
6. Sea boarders' vulnerability to terror and privacy
7. Law ofthe sea and concessional agreements
8. Seanavigational polices and treaties
9. Sea hydrospheric communication and information tolerance Sea military base andsuperpower inclusion.
10. Sea andseabed's changes to climate and weather patterns.

International Maritime Organizations and Agencies are the apexbodies responsible for the implementation of Marine laws and policies as itrelates to global trade and sub-economy of

member and non-member nations. Since pre -historic times the sea have been very useful to men as source ofwater, as means for fertilizing the land, as sources of food from 230,000 knowmarine species[6].

In the recent decades, while the seas are used for:

1. Voyagechannel for boats, yards, tramp and liner vessel transportation mode,
2. Onboard construction of oil exploration terminals,
3. Thepositioning of submersible and semi-submersible oil rigs for mineralexploration,
4. Trawlervessel fishing and marine life farming activities.
5. Provisionof onboard regional maritime rescue coordination and relaying of signalinformation[7],
6. Formationof concessionary agreement for the collection of offshore and port stevedoringfees,
7. Plannedfleet maintenance and vessel refueling harbors,
8. Militarysurveillance, security and ship collision survey.

The Seabed on the other hand is used for:

1. Undergroundlaying of pipelines and communication equipments
2. Theanalysis and comprehension of wave behaviour using multiple componenttechnology, so as to characterize wave images for oil reservoir strength,density and cracking effects.
3. Undersee seismic analysis as regards petroleum evaluations parameters and economicdecisions[8]
4. Thebase band analysis of supersonic arrays in submarine vessel surveillance for attackand defence mission, under the sea.
5. Displacementindices as regards the high sea perturbations, thrust fault and destructiveplate boundary analysis for tsunamis and landslides[9].

1.2 STATEMENT OF PROBLEMS

The use of high sea and seabed in Maritime Administration inNigeria context is experiencing series of problem due to the presence of Niger delta militants and governments age long neglect of these oilrich zones. At different ocean and high sea, arises different temperatures andclimate condition abounds. And these have multiplier effects ofocean acidification which has direct negative impact on high sea vessels andother seabed. The offshore structures even in these unavoidable problems areconsistently deployed with inadequate shipping management skills and completelack of administrative competence due to knowledge gap and politicalstagnation. Continued bottlenecks exists in Maritime Administration as a resultof global policies as a well as institutional changes in legislative laws asregards the use of the high sea, Impact of liberalization by the United NationCommission On Trade and Development (UNCTAD) has some strategies that remaineunclear at different stages of its implementation. This has impacted negativelyto maritime administration on national regimes. The persistence of this problemwas the issue that led to the 40: 40: 20 ratios. It was indeed

this conceptthat crushed the NNSL (Nigeria National Shipping Line)[10]. Many maritimeinfrastructural facilities which serve as derived demand with the high sea andsea bed for water transportation; is hit by decadence, dilapidation and poormaintenance culture. The problems of embezzlements and financial crime arealways at the forefront when holistic correction of this defect is initiated.These appalling situations in itself have negatively affected maritimeadministration. The peculiarity and distinct nature of high sea mode oftransport, saddled with modern technological innovations in the building ofsome factor services, has proven that the Nigerian government has not done whatis needed to support this sector when contrasted with their partners in thefar-east, western world, and other sub-continents, this problem has sabotagedthe maritime administrative agency from attaining to the needed bench mark askept by the international maritime organization (IMO).

1.3 Research Questions

Thefollowing research questions will be addressed in the study.

1. Whatcategories of high sea and sea beds and the activities undertaken there in,have influenced maritime administration positively and negatively?
2. To whatextent has the use of high sea and seabed been evaluated with a view todetermining their contribution to maritime administration?

1.4 SCOPE OF THE STUDY

The area of this work is within the Nigerian high sea-Atlanticocean as it affects the Maritime administration in Nigeria.

1.5 AIM AND OBJECTIVES OF THE STUDY

The main aim of this work is to appraise the uses of the highsea and sea bed in maritime administration in Nigeria. The study further aimedat: Characterizing the high sea by way of proper definition of maritime zones,flag of confidence and possible inclusion offences. Further specificobjectives are:

1. toconduct a comprehensive study of the selected high sea and seabedand find out their locations, evaluate their factor, service ,distinct featuresand prefer better method to the economic benefit that they offer.
2. todetermine and find out various activities that are carried out at the selectedhigh sea and seabed, examine the stake holders' involved, their limitation andmaritime administration characteristics.

CHAPTER TWO
LITERATURE REVIEW

This chapter reviews related literature to the study onappraising the uses of the high seas and seabed in maritime administrationfocusing specifically on the Nigerian high sea-atlantic ocean and its seabed.

2.1 THE MEANING OF OIL ANDGAS MANIFOLD

The ideal of oil and gas manifold is to divert oil and gas flowwithout interruption, from the

separator to crude oil burner for disposal; tosurge tank or guage tank for measurement or storage, or to a production line.

Oil and gas manifold also isolates the test equipment to preventinterruption if the testing equipment is pulled out of service temporarily. Theoil manifold is comprised of ball valves, arranges as a manifold and is skidmounted namely: The gas two ball valves is mounted on a skid. The valves havethe following qualities:

1. Metal –to – metal
2. Doublesealing design top resist harsh environment operations[11]

Oil and gas are designed to converge multiple junctions into asingle channel into multiple junctions, simple manifold system basically areused to divide one supply input to multiple outputs, while complex systemsincorporate integral values or an electronic network interface. The specificfeature of manifold is determined by its use.

In oil and gas sector, manifold systems are used within theexploration, development and production phase, particularly in wells usingsurface testing equipment. Choke manifolds combine high pressure value withmultiple choke and are used to lower pressure at the well head, which is veryimportant to gas flaring. Multiple chokes are needed so that if one fails theflow, can be directed to another one. Choks can be adjustable or fixed,howe3ver, must system have a combination of both.

In choosing manifold system there are a number of considerationsto take into account, they are as follows:

1. Pressure:Pressure is exerted through the system. It is important that the weakest partof manifold system can handle pressures grater than the force exerted also,regular maintenance is required to ensure the wear and cyclic fatigue has nothandle its designed maximum pressure
2. Flow:The size of the pipes, values and other components of the manifold systemdetermine the maximum flow rate. Careful consideration should be applies whenpredicting future flow requirement for your application liquids such as crudeoil, flow rate is measured in gallons per minute, while gasses are calculatedin standard cubic feet per minute.
3. Temperature:Temperature range of manifold equipment should be based on careful assessmentof both current and future uses and applications. Manifolds can be made from anumber of materials. Choosing the right material will determine the operationthe manifold will be used in. for example the light weight corrosion resistantnature of aluminum is suitable for highly corrosive fluids and excessive wearsteel and offers high physical strength and can be coated for great corrosiveresistance stainless steel is recommended for externally connosiveapplications. Ductile iron is use when both corrosive resistance andmachinability are important. Thermoplastic and thermosetting polymers ofdifferent molecular weight and grade can be used to provide protection againstspecific types corrosion and chemical attack.

The number and types of ports determines the manifold’sapplication. The number of inputs required determines the number of supplyports, while the number of outputs determines the number of outlet ports[12].

The subsea manifolds offers long term reliability as safety,with a modular approach. Our subsea approach is based on pre- engineeredmodular building blocks with a wide variety of configuration requirements anddesign options the system is designed with close attention to flow assurancerequirements, with a range of foundation systems or various soil conditions.The installation of manifold system is determined by the following features

1. Rigdeployment and mid water tow
2. Minimizingthe need for heavy lift vessels.

Presently in Nigeria, there is no tangible contribution made byNIMASA (Nigeria maritime Administration and safety agency) on oil and gasmanifold. The agency is yet to act on this improved system[13].

APPRAISING THE USES OF THE HIGH SEAS AND SEA BEDS IN MARITIME ADMINISTRATION