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Issues in Safety and Security in Maritime Transportation, Port and Marine Environment

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A B S T R A C T

The inevitability of an acceptable and universal safety code for the security of our water bodies ships/boats, cargoes and ports within marine environment led to the evolvement of safety of LIVES AT SEA (SOLAS) and International Ship and Port facilities security code (ISPS Code) importantly, what is paramount is the safety of human beings and cargoes at sea and within port's environment; the enunciation of safety principles, laws, precautions or codes thus SOLAS and ISPS was sequel to uncontrolled activities of sea pirates, and wharf thieves, container vandals and sea perils. Maritime Transportation System is exposed to a lot of danger and risk due to the volume and variety of cargoes, weapons, tides, weaves that have contract with or passing through it from to time. The complexity of identification and control of these risks and dangers are equally enormous and challenging. The security of life and facilities on ship, ports and terminals in marine environment is a function of the effectiveness of their operations ability to identify and control maritime transportation system, which plays a significant impart in ship owners role on crew security, port and maritime environment security . However, as a result of the increasing level of terrorism in the world, it has become very necessary to pay serious attention to the type, source and destination of the risk, weapon that can affect crew, ship and ports security.

1. Introduction

The scope of the Nigerian Maritime Transportation System comprises seas and inland waterways and associated infrastructure (e.g. dams, aids to navigation etc.) which is linked to a network of international ocean trade routes. The system also includes vessels that carry waterborne cargo, ship operators, ports and the labour force. It is basically the security of life at sea, ports as the terminals. Movements of passengers, crews and goods starts and end in two points, because of the ever increasing volume and variety of passengers and goods that have to be carried. Maritime Transportation System (MTS) plays a significant role in the movement of goods, and services from one point to another. Part of the goods being transported through MTS is weapon of different forms and magnitude. Piracy and armed robbery against ships, and crew have been critical issues to government, shipping companies and the internationals maritime organization (IMO) various cases of piracy and armed robbery against ships have been documented as regards the Lagos coastal area, the Niger Delta region, Somali, Ethiopia, Sierra-Leona and Liberia. Over the years, particularly after the September 11, episode in the United State, and the recent attempt of a Nigerian to bomb an American Airline. The level

and seriousness of inspections in MTS have been intensified. As the international terrorism is increasing on daily basis and crew security or life at sea and risk of ship, a lot of it is being perpetrated through MTS. There is need for a concerted effort to eliminate piracy using the Navy and the Marine Police. The International Convention for the Safety of Life at Sea (SOLAS) is indeed the most important. It is one of the oldest and the first version to be adopted at a conference held in London in 1914. Also SOLAS, since the 1914, 1929 , 1948 and 1960 Conventions has emphasized safety of navigation, construction, radiotelegraphy, life saving appliances and fine protection. As regards the International Ships and Port facilities Security (ISPS) Code. It is an amendment to the Safety of Life at Sea (SOLAS) convention (1974/1988).

1.1 Statement of Problem

The implementation of SOLAS and ISPS started almost immediately by developed countries but SOLAS was impended till 2001 for developing countries for them to put their implementation structure in place. For Nigeria, the National Inland Waterways Authority (NIWA), the Nigerian Ports Authority (NPA) and the Nigerian Maritime and Safety Agency (NIMASA) are the regulatory agencies with structures for the implementation of SOLAS and ISPS Codes. The International Ship and Port Facilities Security

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Code (ISPS Code) represents the culmination of just an intense work by IMO's Maritime Committee and its Maritime Security Working Group since the twenty second session of the assembly adopted resolution A – 924 (22) on the review of measures and procedure to prevent acts of terrorism which threaten the security of passengers and crews and screws and safety of ships in November 2001. It was adopted in December, 2002 by the International Convention for the Safety of Life at Sea.

The Objectives of this Code are:

1. To establish an international framework involving cooperation between contracting governments, government agencies, local administrations, the shipping agencies and port industries to detect security threats and take preventive measures against security incident affecting ships, seafarers and port facilities used in international trade.

2. To establish the respective roles and responsibilities of the contracting governments, government agencies, local administrations and the shipping and port industries at the national and international level for ensuring maritime security.

3. To secure the early and efficient collection and exchange of security related information.

4. To provide a methodology for security assessments so as to have in place plans and procedures to react to changing security levels and

5. To ensure confidence that adequate and proportionate maritime security measures are in place.

1.2   Definition of Concept
Piracy:- the following definitions of piracy are contained in article 101 of the 1982, United Nations Convention on the Law of the Sea (UNCLOS).

(a)   Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft and directed:

(i)   On the high seas, against another ship or aircraft or against persons or property on board such ship or aircraft.

(ii)   Against a ship, aircraft, persons or property in a place outside the jurisdiction of any state.

(b)   Any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft

(c)   Any act inciting or of internationally facilitating an act described in sub-paragraph (a) or (b)

1.3   Issues
IRIN News Org. (2003) did report that at Least five Nigerian Policemen died when their patrol boat came under fire from gunmen suspected to be sea pirates in the Southern , Niger Delta. Also, the police boat on an antipiracy patrol in River Nun in Bayelsa State was ambushed on a Tuesday Morning, July 8, 2008, by men dressed in army and navy uniform.
IRIN (UN) office for the coordination of Humanitarian Affair reported that the superior life fire paver of the pirates forced some of the

policemen to jump into water and ten of them got drowned. Further it was reported that dozens of people including twelve (12) policemen were killed in 2003 in a spate of pirate attacks in the waterways of Bayelsa (part of the oil – rich Niger Delta) which have severely disrupted river transport.

Terrorists target money and valuable carried by traders in boats plying the area, the pirate are linked to the wide spread thief of crude oil from pipelines in the region that are siphoned into barges and transferred to bigger vessels offshore for sales abroad. The frequency of the attacks has forced boat drivers off the worst stricken waterways including River Nun, Forcados River and Tungbo Creeks crippling economic activities in the area.
The Bayelsa State Government announced that it setting up a 400 strong vigilante force to assist security agencies in combating piracy and security along oil pipelines frequently vandalized by oil thieves. IRIN reports that the Nigerian Security agencies believe the illegal trade in crude oil provides the funds for the guns currently in the oil regions, fueling ethnic violence and criminal activities. The International Maritime Bureau was quoted to have ranked Nigeria's coastal area only behind that of Indonesia and Bangladesh among countries in the world where pirates were most active in the first six months of 2003.

Brugneel (2002) gives number of attacks by pirates as at 2002. He did say that eighty five (85) separate incidents including warning were reported. Some of the notable piracy incidents in 2002 are:-
(a) An attack and hijacking of the Lebanese Vessel 'Princess Sarah' off the coast of Somalia.
The initial attack took place on Monday 14th January 2002, six armed men in two white hulled speed boats tried to stop the vessel and fired at it. The captain and crew managed to get away from them in the rough sea but apparently sustained some damage which forced them to stop after 32km and make repairs to the engine.
(b)   Two days later a second attack took place and the pirates managed to take over the vessel. The crew of the vessel included= 8 Ukranians, 4 Lebanese and a number of Egyptians. The initial ransom demand was $60,000 (Sixty Thousand Dollar) but later this was changed to $200,000. A French naval boat was sent to oversee their release. According to the captain of the vessel, Ahmed Kanji "some of the 21 pirates were Somalis".
(c)   The Nigerian Vanguard Newspaper in 2002 reported that rivers and waters in Nigeria have become more dangerous since fighting has broken out between rival pirate gangs for control of the waterways. The gangs were suspected to be originally members of the same gang whose chief officer was killed in 2001, given room for leadership tousle among them.
On my visit to most of the oil company in August 2005, in the Niger Delta area, most of the oil firms have engaged the services of armed mobile policemen as escorts.
Badejo (2007) reported on the Lagos state plan for its inland waterway transportation development that it intends to increase it water transportation modes, while New Strait Times (2008) reported on the plan of the government of Malaysia for its

Marine Police and equipped the Marine police with 15 new vessels. Olumide (2004) did say that the growing prominence of piracy on Nigeria waters can be traced back to lifting and siphoning of crude oil to sell to vessels offshore. Olumide did say that gangs armed with automatic rifles and rocket propelled gun in speed boats and barges, find cover in the creeks in the mangrove swamps that enters the Atlantic Ocean. Emeka (2005) did argue that many of the attacks occur on the high seas as ships approach Nigeria waters. Emeka also argues that an equally large number of attacks occur within Nigerian territorial waters. Iwori (2004) wrote on six foreign oil workers kidnapped in Bayelsa, Nigerian. He did say that a resurgent siege on oil workers hit the Nigerian oil industry on the 19th July, 2004.

The Standard Times (2002) reports that Sierra Leone is successfully responding to attack by pirates on vessels in the waters. The maritime forces in Sierra Leone were called to deal with pirate attacks off Yelibouga Island. The fishing vessel MUSEWASAZ was attacked by five men who were heavily armed and dressed in military fatigues. Upon the arrival of two fast patrol boats a fire exchange took place during which one sailor was injured. After a brief exchange of fire, the pirates fled into the Guinea water and pursuit had to be abandoned.

The above mentioned incidents were but some of many several attacks of which the maritime transportation system faced.

2.0 Impact of Maritime Transportation Insecurity and Piracy on the Economy

As revealed in the introduction, cases of different dimensions of insecurity, risk and pirate activity on our waterways, ports, terminal and on life at sea, that affect goods and services, ships, crew, passengers, and maritime environment. This is not peculiar to Nigeria "International Shipping Mafia" and thief or fraudsters, terrorists or "wharf rates". ' Young people in my country now have as their role models the leaders who have made money as a result of corruption, fraudulent activities and piracy' (Obasanjo) Berlin in May 1993. This is destroying the economy and the future of our society". it is therefore, this revulsion against the terrible situation that has motivated this research and that every well meaning Nigeria in Maritime business, or whatever callings he finds, himself, shipping, government agency, telecommunication, arts, technology, police, army – whatever, on the need to take concrete steps to reverse this ugly trend for the future of the nation.

The activities result into great loss of revenue, life, properties, trade, business, services, goods inter-relationship, exchange, it all have huge problems affecting the growth of the sub-sector of the economy. Since oil which account for about 70-80% of the Nations revenue is affected, which is shipped through water transportation and have contract with these pirate or thief on high sea, and diverted, take over, convert, kill and waste the black gold for reasons best known to them, the nation's economy is greatly affected.

The name and image of the nation is equally affected. Traders are at the mercy of these pirate and thief which made life unsafe, unsecured and dangerous for transaction and usage of maritime transportation which is the cheapest, and the only bulk carrier of heavy goods from one point to another which as water modes. It also have negative impact on the GDP of the nation due to the fact that productivities, consumsution, will be greatly affected, international trade will not be easy for transaction, life at sea, which is valuable and can not be quantified in terms of investment in the life of a sailor, or captain of the ship, - the cost of owning a ship, the impart of the terrorist on the sea ports and the maritime operator can not be quantified, the pollution of the marine environment during their activities of oil bunkering or where they are transferring oil from one ship to another in either mid sea or seashore and pollution from ship discharges as a result of deliberate, negligent, or accidental release of oil or other harmful substances from ships could constitute a serious source of pollution. There is need to protect the seas and the coastal environment.

Lost of life at sea, is a great risk faced by the maritime operator when they come in contact with tides, weaves at high sea and communication becomes very difficult and impossible, tides and waves are usually referred to as act of God and since only Modern Technology development knowledge that are able to suggest solutions to these, its also a thing of great need for the nation to develop it technology towards Transport Management Technology and Research activities toward finding solution into maritime transport problems.

Also, a lot of goods and services are lost due to the fact that these pirates are after money, valuable goods, and there are with modern weapon with which they operate and are able to over comes ship operators and port officer. The risk of life at sea is a problem that many police officer has died and many valuable goods taken away. Development cannot take place due to the fear of terrorism e.g. Delta State or Bayelsa area in Nigeria, where kidnaping is a daily activities and it occur on our waterways is a typical examples.

2.1 Oil Transportation Problem.

In tonnage terms, of all bulk cargo transported at sea most important, the study by the US National Academy of Sciences published, 1983 indicated that 3.5 million tones of oil entering the sea from all sources polluting the water bodies approximately 1.5 million tones were caused by maritime transportation of this about 400,000 tons per year were the result of maritime accident while 700,000 tons per year caused by tanker operators, 300, 000 tons per year by dumping of oily bilges and disposal of fuel oil, sludge which is act of thief and pirates and 50,000 tons per year caused by terminal operation and dry – clocking. The impart of ecological system is of great note which is affected by the result of risk at sea.

2.2 Initiatives to counter piracy and armed robbery at sea for safety of life.

International Maritime Organisation (IMO) is implanting an anti-piracy project, a long – term project which began in 1998. Phase one consists of a number of regional seminars and workshops attended by government representatives from countries in piracy infested areas of the world. While phase two consists of a number of evaluation and assessment missions to different regions. IMO's aim

has been to faster the development of regional agreements on implementation of counter piracy measures. Regional Co-operation Agreement on combating Piracy and Armed Robbery against ships in Asia (RECAAP) which was concluded in November 2004 by 16 countries in Asia, and includes the RECAAP Information Sharing Centre (ISC) for facilitating the sharing of piracy related information, is a good example of successful regional cooperation which IMO seeks to replicate elsewhere.

More recently, a programme of sub- regional meeting was initiated to promote regional action to address piracy and armed robbery against ships in the wider context of maritime security. The first of these was held in Sana's Yemen in April, 2005, for states in the Red Sea, and Gulf of Aden areas, with a follow-up event took place in Oman in January 2006. The meeting on the Straits of Malacca and Singapore, Enhancing Safety Security and Environment Protection held in Jakarta, Indonesia in September 2005 also addressed the issues of piracy and armed robbery against ships, while the 3rd International Workshop on Ship and Crew Safety, Port and Marine Environment Security was held in University of Lagos, Nigeria in March 30th & 31st, 2010 for National in Pacific Ocean, Red Sea and Africa Ocean, to research into the risk, and security faced in our maritime business and risk of life at sea. Members nations were represented Caribbean , South Asia, Asia, South Africa. Clearly the need for a well –equipped and efficient Maritime Search and Rescue Programme should be to save lives at risk throughout the nation's maritime environment, while the maritime Transport Volunteer Organizations, municipals, state government in case of inland waterways, territories have to work together to provide the SAR services. This is to play a role that will allow various institutions in the maritime, safety, security and accident, piracy, armed robbery reduction.

There should be a great monitoring at ports and zones that are daily patronized by dock workers, shipping companies' representatives, clearing and forwarding agents and their touts, wharf – rats, and officials of Port Authorities, customs, immigration NDLEA, SON etc.

2.3 The Roles of Port Users, Operators

Port security cannot be over emphasized, maritime business or trade is not only an inter-face between land and sea transport system but also a nodal point in the net work or surface transport where commercial and industrial activities involving several nationals are carried out.

Life, ships, crew, cargo are great value and great access to nations that have to be carefully protected and managed for the benefit of economical development and great attainment of technology advancement. The value of port infrastructure, ship and cargo is of need for nations development e.g. oil account for over 70% of Nigeria revenue while it's a maritime transport mode used for carriage.

There are need for the following:
Pollution control, oil shipment monitoring and a better information system that can assist in Safety of Life at Sea must be put in place and well managed. There is need for use of RADAR;-
i.   RADAR is an electronic system used to locate objects beyond t

he range of vision and to determine their distance by projecting radio waves against them.
ii.   RADAR is derived from the phrase 'Radio' detection and ranging
iii.   RADAR is used in the Navy and War Ships concerning with radio detection and position findings, such devices not only indicate the presence and range of a distant object, called the target, but also determine its positions in space, its size and shape and its velocity and direction of motion.
iv.   A Radar based control approach consists of two separate beams, one scanning vertically, the other horizontally, the captain needs only a radio receiver and is effect 'talked down' by the port crew.
v.   Logistics and information equipment is relevant for ensuring safe passage of goods from point of production to the consumption.

The need for Global Positioning System (GSP)

i.   GPS is being applied for the traffic control of all forms of transportation.
ii.   Rail-industry uses satellite tracking devices mounted on locomotives to identify a ship or boat exact location.
iii.   The rail –road dispatcher can also be applied in the shipping industry to know train location, speed and the distances between trains, as well as prediction of hazards and inform the vessel crews.
iv.   GPS tracking and traffic control are being developed for Maritime transportation, Vessels and Boats control, has to be well managed and the use of modern technology equipment and technology knowledge is of great requirement.
v.   Automated Vessels and Boat Control Technologies are under development to improve ocean highway safety and security.
vi.   These devices are aboard the vessels or boats and can alert the captain and crew to an impending danger or an emergency can override an action from the control of vessel.
vii.   Radar / Sensor are also used to detect vehicle (within the port) or vessels (on the high sea) or the custom's boat in driver's or captains blind – spot invisible in mirrors

2.4 The development of Intelligent Transport System (ITS) and Traffic Control.

With the development of technology and advancement of transport research. The encompasses the use of advance electronics communication and computer systems that increase the efficiency and safety of shipping or water transportation. These technologies can provide real time information exchange between the captains of vessels, boats and its known as ITS. Ports can be equipped with more sophisticated remote cameras, radar, or sensor in the control tower in order to monitor vessels in the high sea.

2.5 The role of Closed – Circuit Television (CCTV) in Maritime Transport Safety and Security

The oil depot operators could assimilate data / information from multiple task specific software modules, the usefulness of the advanced information systems used by some of the larger oil and gas

companies is the ability to efficiently move data / information between internal and external system users. External data gathered from surveillance team enrooted Global Positioning System (GPS) on board computers or digital phones is routed into this system to provide up-to-the-minute access on oil location, security personnel available and products deployment. CCTV systems can be beneficial to the security of our oil terminals especially at the creeks and also at the offshore operations to the extent that the CCTV revelation of the intended criminal activities which could lead to the apprehension of the suspects, piracy possibly before carrying out their criminal acts. The perimeter of our ships, vast oil terminal, ports, crew, cargoes are to be protected by fitting with a high security surveillance system designed to survive the unexpected". The adopted CCTV system should be that with an extremely resilient camera network.

Government should endeavor to deploy state-of-the art electronic technology in pipeline monitoring to cut down on all acts of vandalism. The electronic monitoring gadgets should be able to check the activities around the nation's pipeline and at the same time be able to alert the various authorities the moment if there was an alarm that the armed robber or piracy or thief around vandals are about to attack ships, port, terminal or crews and infrastructure. The choice of CCTV must be that which is designed to survive the unexpected and deal with it without significant impairment. It must incorporate redundant units which take over all functions from failed ones within seconds. This is to endure that it provides a continuous intelligently filtered security overview of the whole site.

Although, the Nigerian oil terminals are usually under the surveillance of heavy military guards but the attacks seem to have become more complex by the day. This implies that beyond human and electronic surveillance there must be drastic political steps to be taken to ensure safety of our oil terminals. It is worth noting that proactive CCTV System that would ensure that attacks are prevented as much as possible rather than working on the identities of "masked vandals" on CCTV. Surveillance video recorders after attacks on oil terminals have been carried out.

2.6   Controlling Arms and Weapon for Safety and Security of Life At Sea, Port, Terminal and Maritime Infrastructures.

Small arms and light weapons are transported or smuggled through the sea or rivers as the case may be, these arms are bulky cargoes, therefore, they have to be transported by maritime transport. Military logistics, also favour these means of transport for arms and ammunition. Statistics show that more than 300,000 people are killed every year from small and light weapons, and of course, many thousands more are permanently injured or disabled.

In recent wars, piracy, robbery, thief, at maritime transportation system, small arms have accounted for between 60-90 percent, depending on the areas e.g. terminal, ports, creeks harbor and of course in domestic and international waters. Arms are the vector for violence, for other kinds of violent interchanges between people.

There are about 640 million small and light weapons in circulation. World Maritime Universal Journal, November 2009 edition". This is roughly one for every ten persons on the planet, but the distribution of these weapons is extremely unevenly both geographically, demographically and interims who is what institution hold them. About 50-60% of the world's small arms are in civilian hands, only 35% are held by the armed forces.

2.7   The Need for Security Intelligence in Maritime Transport

This organization if set – up, will monitor, collates as well as disseminate intelligence information relating to internal (port, ship, crew, operators) and external (piracy, thief, wharf –rat, armed robber) threat to national security. It will maintains discrete surveillance on subversive groups/elements whose activities are prejudicial to internal security.

They will function as Intelligence Bureau, charged with among other functions, the duty of monitoring, collating, processing and disseminating intelligence of security interest, which covers, terrorism, espionage, subversion by religious groups, presume/interest groups, human right activities, student union labour union, drug trafficking syndicate, communal and boundary disputes, illegal activities of aliens, armed robbery / assassination gangs, local / international organized, crimes syndicates, political activities, economic sabotage, transnational organized secrete cult etc.

2.8   Types of Surveillance

Mobile Surveillance:- This type of surveillance activity, the target is usually trained by the operatives assigned from one point to another observing his actions, operations, criminal associates or contracts his take – off points and destination. Mobile surveillance can be conducted on boats, speed boats, ships, vehicle depending on the state or nature of the target when the surveillance is being conducted. Aero plane, cars can also be used for surveillance.

Threat in maritime language can be analyzed as:- Statement of an intension to punish or hurt something especially if he does not go as one wishes. OR sign of warning of causing trouble, danger etc or and seem likely to occur or come to being.

Threat to life at sea can be something likely to happy or occur which may result into a breach of peace, if not halted.

Some of the threat to safety of life at sea are:-

a.   Terrorism
b.   Robberies
c.   Piracy
d.   Gun running
e.   Bunkering
f.   Assassination
g.   Vandalisation and other acts of economic sabotage
h.   Thief at air and sea port
i.   Pollution from oil spillage
j.   War / unrest (civil)
k.   Weaves
l.   Tides
m.   Religious intolerance
n.   Boundary (disputes) water territory

a. Top secret
b. Secret
c. Confidential
d. Restricted

Top Secret

This is information and material that unauthorized disclosure of which would cause exceptional grave damage to the nation e.g. very important document, port facilities on piracy, passengers and valuable goods, important political documents, for internal security higher defense and strategy, critical information about major scientific, technical development and major government document plan.

Confidential

This is information, material and unauthorized closure of which would be prejudicial to the interest of maritime operation and national value / economy.

3.0 Recommendations

i. All areas of the port should be well illuminated, cost – guards, Para-Military personnel jointly formed by the security agents should be put in place to patrol the port, terminals, ships waterways and port areas, e.g. warehouse, shades, jetty.

ii. The port's control tower needs urgent radio and radar facilities to meet with international standard;

iii. There is need for port authorities, boats own by customs, shipping council, other government agencies to equip, the port, and boats with modern information technology, logistic equipment and gadgets.

iv. Patrol vehicles are supposed to be equipped with CCTV gadgets.

v. There should be special budget for providing information on safety and security of life at sea.

vi. Maritime industry's spill – response readiness must be up graded.

vii. Legislation, conference and agreement can also be made by maritime concerned parties on safety and security of life at sea, to check the menace of spill on our territorial waters with its attendant repercussions on the environment.

viii. Enforcing both the existing international and local regulation will enhance safety at sea, with avoidance of damage to marine environment and port facilities.

ix. There is need for enlightenment campaign on the danger constituted by marine pollution on human and marine environment.

x. Enforcement of regular patrol of our waters and channels to prevent piracy, robberies, thief, indiscriminate dumping of wastes by incoming and outgoing vessels;

xi. Make security awareness a driving line of responsibility, with the security department acting as a catalysts.

xii. The assessment of staff performance and evaluation on security awareness should include all staff in the organization no matter their status.

xiii. Training and re-training of staffs for better understanding of

security risk and danger that would meet the demand for daily increase of development in maritime security and safety.

xiv. Media awareness must be created by printing of posters/slogans, uniforms personnel and staff who report security breaches should be rewarded.

xv. Security and safety of life awareness programmes should include Health, Safety,

a. Environment week, shipping vigilant day, shipping position week, should be taken seriously.

xvi. Creation / allocation of security watch and awareness column in the Television / Radio Stations.

xvii. Involvement of neighboring communities and shipping companies with all government agency must hold meetings and briefed of all security arrangement (security awareness forum) SAF).

xviii. Installation of the latest Vehicle Traffic System (VTS) and Vessel Traffic Management System (VTMS) at key check points for effective surveillance.

4.0 Conclusion

The fundamental issues highlighted in this article are for the purpose of promoting a better maritime Transportation and Safety of Life at Sea, and Sound Future for Maritime Business and practionners both at Local and International Levels. A code of conduct particularly, the sanitization of their various forms of operations and ethics is earnestly needed. In addition, academic curriculum for the teaching of the principle and practice of Export and Shipping Management should be inaugurated and designed to assist in minimizing the general absence of professional operators and uniformity among maritime operator & practitioners, technological changes and dynamics should be considered by government such as changes affect their daily operation security, safety and activities.

The capability of most developing countries is generally insufficient to cope adequately with the assessment of the problems facing their marine business and coastal environment.
To improve this situation, the recent adoption of convention on oil pollution preparedness response and corporation (OPPRC) 1990, which contain a mandatory requirement for oil pollution emergency plans should comes into effect.

As MTS is expanding on daily basis and the level of terrorism is also increasing in alarming rate, it has become the responsibility of everybody, particularly those in the MTS to be security conscious and educated.

No nation can at this level of technological development take the issue of security and safety of life and goods with levity.

All hands must be on desk to ensure that every effort is put in place in our ports, terminals and water bodies, with the use of Closed Circuit Television (CCTV) in the security and safety of life, infrastructure, seaport, ship and that of oil terminals.

The Seaports and Terminals are the major areas of the Maritime Transportation, where business activities take place, it experienced a tremendous risk activities, while information on ship

and tankers movements, foreign and domestic freight movement, crude oil shipping, loading and discharging of uncrated vehicles, passenger, cargoes and container traffic etc which is the target for thief, the piracy, armed robbers vandalisation etc.

    This is so due to the volume of valuables and large business activities.

The tables below show some of the summary of port operational activities and number of vessels entered Nigerian Ports (including oil terminal) etc. The volume and its value attracts great risk.

Table 1: Number of Vessels entered Nigerian Ports (Including Oil Terminals (1980-1991)

Year	Number of Vessels
1980	6,409
1981	6,569
1982	5,763
1983	4,436
1984	3,263
1985	3,493
1986	3,003
1987	2,824
1988	3,009
1989	3,244
1990	3,640
1991	3,944
Total	49,597

Source: Nigerian Ports PLC, Lagos

Table 2: Number of Vessels entered Nigerian Ports (Including Oil Terminals (1980-1991)

Year	Inward	Outward	Total throughput
1980	18,561,915	2,827,706	21,389,621
1981	20,728,974	2,913,742	23,642,716
1982	20,073,797	2,537,432	22,611,229
1983	16,394,509	2,346,700	18,741,209
1984	12,372,417	2,278,685	14,651,102
1985	13,453,939	2,947,740	16,401,679
1986	9,851,059	2,423,520	12,274,579
1987	9,288,006	2,249,584	11,537,590
1988	7,773,258	3,510,432	11,283,690
1989	8,759,961	4,616,226	13,376,187
1990	9,338,801	6,830,356	16,169157
1991	11,021,521	6,817,380	17,838,901
Total	157,618,157	42,299,503	199,917,660

Source: Nigerian Ports PLC, Lagos

Table 3: Summary of Port Operational Activities; January – September, 2000

Ports	No. of Vessels	Import (MTS/TEUS)	Export (MTS/TEUS)	Total Ton. (MTS/TEUS)	Total Gross Freight(s)	Total NMA Levy ($)
APAPA	669	3,988,127.83 82,850 Teus	87,062.03 15,366 Teus	4,075,189.86 98,216 Teus	437,469,858.30	13,124,095.73
TCIP	369	4,892,242.66 31,546 Teus	57,115.72 7,686 Teus	4,949,358.38 39,232 Teus	230,906,452.20	6,927,284.29
PHC	183	1,145,769.73	70,022.53	1,215,792.26	76,551,003.91	2,026,530.94
ONNE	122	749,280.95	16,078.21	765,358.96	41,498,545.32	1,244,955.57
WARRI	133	338,581,54	10,260.49	348,842.03	30,560,811.27	918,743.56
CALABAR	34	75,418.30	2,889.00	78,307.03	6,283,203.61	188,743.56
TOTAL	1,507	11,189,420.81 114,396 Teus	243,427.98 23,052 Teus	11,432,848.79 137,448 Teus	814,269,874.70	24,430,106.55

Digest of Transport Statistics, 2000

Table 4: Ships Traffic Cargo throughput and Revenue Generation; January – September, 2000

Type of Cargo	No. of Vessels/Tankers	Ton. Discharge and Loaded/Lifted (MTS)	NMA Levy Generated ($)
DRY CARGO	1,507	11,432,848.79	24,430,106.55
WET CARGO	885	79,506,569.66	25,887,105.95
TOTAL	2,392	90,939,418.45	50,317,213.50

Digest of Transport Statistics, 2000

Table 5: Number and Net Registered Tonnage (NRT) of Vessels that entered Nigerian Ports (including Crude Oil Terminals): 1994-2004

Year	Number of Vessels	NRT
1994	3,073	51,221,804
1995	3,023	47,690,441
1996	3,202	53,773,485
1997	3,585	58,236,541
1998	3,972	60,056,043
1999	3,762	57,193,097
2000	4,087	71,658,861
2001	4,473	72,725,956
2002	4,143	65,162,035
2003	4,315	72,050,769
2004	4,553	94,460,522

Source: Nigerian Ports Authority, Lagos

Table 6: Tonnage of Crude Petroleum Oil Shipped at Crude Oil Terminals: 1998-2004

Terminals	1998	1999	2000	2001	2002	2003	2004
ANTAN OFF-SHORE	401,280	938,659	1,547,838	1,669,522	2,358,794	1,309,613	2,479,848
BONNY SHORE	18,726,864	16,712,496	21,172,823	17,134,427	15,972,099	16,047,421	22,561,158
BRASS OFF-SHORE	6,078,204	599,831	6,911,888	8,087,220	6,529,380	9,799,803	9,760,754
ESCRAVOS	13,284,985	14,054,162	16,876,386	14,384,210	10,982,485	13,054,434	13,685,590
FORCADOS	23,509,234	16,292,257	19,815,802	22,183,703	19,977,639	15,183,159	20,596,174
IMA	545,299	379,067	290,075	172,802	108,699	107,507	131,061
ODUDU	4,062,952	4,674,328	4,645,882	4,120,698	4,538,716	3,082,027	7,094,545
PENNINGTON	2,853,303	2,847,092	3,505,670	3,399,858	2,957,861	1,904,845	2,752,236
QUA-IBOE	29,470,077	29,210,888	26,506,081	27,169,893	21,906,841	25,170,069	25,269,572
UKPOKITI	1,563,079	1,355,484	1,168,219	2,410,542	951,522	138,803	174,035
ABO	-	-	-	-	-	-	1,175,195
EA OFF-SHORE	-	-	-	-	-	-	4,732,383
OKONO	-	-	-	-	-	-	1,215,657
YOHO	-	-	-	-	-	-	5,427,220
TOTAL	97,953,228	87,064,264	102,440,664	100,732,875	86,284,036	85,797,681	117,055,427

Source: Nigerian Ports Authority, Lagos   (Digest of Transport Statistics, 2000)

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