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Evaluating The Implementation Of The Requirements Of A Port Reception Facility In The Nigerian Maritime Sector

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Abstract
This paper identifies on one hand the availability and adequacy of a Port Reception Facility (PRF) as required by relevant International Maritime Organization (IMO) regulations and further evaluates the extent to which those regulations have been implemented in the Nigerian Maritime Sector, on the other. One of the purposes of this paper is to see beyond focusing on the aspects of just defining, reviewing, and discussing the benefits or achievements of PRF alone, but rather, adopting more pragmatic, coherent and holistic approaches become necessary. In this paper, semi structured interviews were conducted and importantly, a case study approach was also adopted focusing on the Nigerian Maritime Sector situation and lessons from European Union (EU) experience was equally adopted. The paper observes that there is a strong relationship between the situation in the EU and Nigeria in relation to implementation of International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78 and the adequacy of PRF in particular. One of the main the reasons for the strong relationship between the situation in the EU and Nigeria can be traced to the fact that both have followed IMO directives, regulations and circulars to a larger extent. Although, the issue around the complexities, peculiarities, and sharp practices in the Nigeria Maritime Sector cannot be push aside, but this was well managed by the Nigerian Flag State Administration that is the Nigerian Maritime Administration Safety Agency (NIMASA) through effective and efficient coordination role and collaborative approaches though more are still required to be done, which can be learnt from EU. For example, the Nigerian Flag State Administration should deliberately set up a Sub Technical Group on Port Reception Facility with the main mandate of achieving sustainable marine environment to enhance sustainable shipping using a holistic/integrated approach through a sound synergetic process beyond what was on ground. Then, the composition of such sub technical group should cut across all the relevant agencies in Nigerian Maritime Sector covering both inter and intra agencies, which is capable of solving conflict. Therefore, in order to achieve greatly in the Nigerian Maritime Sector in relation to implementation of requirement of PRF, a strong political-will is further suggested to complement the effectiveness and efficiency of collaborative efforts already in practice.

Keywords: *Port Reception Facility; International Maritime Organization; International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78; Nigerian Maritime Sector*

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I. Introduction

The discourse around the need for putting in place an ideal Port Reception Facility (PRF) at port, terminal, shipyard and offshore installation is over five decades. The International Maritime Organization (IMO) through Marine Environment Protection Committee (MEPC) during second session in November 1974 discussed submissions on PRF by United State of America (USA), Japan, International Chamber of Shipping (ICS) and Oil Companies International Marine Forum (OCIMF). The first working group on a PRF was established in 1975 during MEPC third session with the main objective to study the requirements and limitations imposed by the International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78 with respect to the provision of PRF for wastes containing oil, noxious chemical substances, sewage and garbage from ships (Mikelis, 2012).

There is no iota of doubt that marine litter/waste emanates from several sources and shipping activities in particular. These marine litters have the tendencies of causing tremendous environmental, social and economic impacts by preventing easy passage of vessel and pose threat to local marine resources, human life and safety, if not properly disposed or when discharged directly to the sea. Thus, the rationale for provision and

adequacy of **PRF** by **Nigerian Ports Authority (NPA)** and **Nigerian Maritime Administration and Safety Agency (NIMASA)** respectively at port, terminal, shipyard and offshore installations become inevitable mainly to guarantee cleaner oceans through proper waste management plan and subsequently to remove harmful substances as described in Article 2 of MARPOL Convention. This is necessary to preserve local marine resources and human life **without causing undue delay to ship**, as required by the MARPOL 73/78 and in line with the decision of MEPC 42 session in 1988 and MEPC 44 session in year 2000 (MEPC 83.(44). Then, PRF typically can be referred to any fixed, floating or mobile facility capable of receiving the MARPOL 73/78 wastes/residues/oily mixture/garbage generated from ships (dry bulk or liquid bulk cargoes) and fit for that purpose (IMO, 2018; and Merchant Shipping Act, 2007). Moreover, the type and size of the facility depends on the needs of the ships visiting a port.

IMO has recognized that provision of PRF is crucial for effective MARPOL Convention implementation, and MEPC has strongly encouraged Member States, particularly those Parties to MARPOL as flag and port States, to fulfill its treaty obligation on providing adequate PRF (IMO, 2019, Mikelis, 2012 and Merchant Shipping Act, 2007). It is vital to mention that after ratification and domestication of its content; the Nigeria Government through NIMASA has put in place modalities to translate into practice the intention of IMO but the extent to which such intention has been implemented will be investigated.

It would be recalled that in March 2006, MEPC 54 session highlighted the importance of adequate PRF in the chain of implementation of MARPOL Convention, and maintained that the policy of zero tolerance of illegal discharges from ships could only be effectively enforced when there were adequate PRF in ports, terminal, ship yards and offshore installations. It is obvious that offshore installations are one of the sea-bed sources of marine litter and among other discharges from inland waterways vessels is another source of marine pollution. Apart from providing adequate PRF, it is vital to mention that in June 2004 a Port Reception Facility Database (PRFD) was developed, documented, maintained by IMO Flag State Implementation Sub-Committee to allow member states update online and to allow the public to access information related to PRF. Subsequently, IMO Global Integrated Shipping Information System (GISIS) was launched on 1st March 2006 (see http://gisis.imo.org/public/). Member States enter data on PRF for their own ports directly into the web-based system as stipulated in IMO Circular letters No.2683 and No.2892 respectively. Although, the first comprehensive manual on PRF was developed in 1992 at 32 sessions, another one in 1999 and the next one in 2016 and such review is a continuous process mainly to ensure and enhance continual improvement.

In this paper, the word conventions, regulations, policies, circulars, plans and guidelines are used interchangeably. The paper is divided into eight sections and the first is the introductory section. The second section presents the methods of data collection and analysis. The third section discusses the relevant conventions and regulations related to implementation of PRF. The fourth section focuses on requirements for waste reception and handling plans. The fifth and six sections delve into the cases of the Nigeria and EU respectively. This is necessary to assess the relationships between the EU and Nigeria in terms of the extent to which related regulations and conventions have been translated into practice. The seventh section emphasizes the rationale for action plans to tackle any alleged inadequacy of reception facility, including assessing the outcome of the action plans on any alleged inadequacy of reception facility and benefits of reception facilities in practical terms. The final section is the conclusions and recommendations part of the paper.

II. Methods Of Data Collection And Analysis

The objectives of this paper is to identify on one hand the provision and adequacy of PRF as required by relevant regulations and to assess the extent to which those regulations have been implemented in the Nigerian Maritime Sector in practice, on the other. The purpose of this paper is more beyond focusing on the aspects of just defining, reviewing, and discussing the benefits of PRF alone, but rather, adopting more pragmatic; coherent and holistic approaches become necessary. It is on this note that in general terms, the paper discusses the aspects of relevant regulations and further elucidates the requirements for Waste Reception and Handling Plans/Guides/Procedures for receiving, storing and treating waste from ships using secondary data.

In a specific term, the paper assesses the case of European Union and subsequently the case of Nigeria through a critical review and semi structured interviews where necessary for the purpose of depicting the relationship between the both cases and lessons to be learnt using primary and secondary sources (Lawal et al, 2013). The paper further reveals on one hand the action plans to tackle the inadequacy of PRF, if occurs, and likely benefits of PRF when adequately put in place, on the other. This is necessary to depict that holistic approaches are required to fully understand the discourse around PRF and in turn enabling the Flag State Administration that is NIMASA to improve awareness about subsidiary regulations and guidelines for implementation of the mandatory IMO Instruments.

The positionality and world view of the two researchers has enabled us to present this publication via different perspectives (Holmes, 2020; Mowe, 2014; Lawal, 2012). This is because the researchers are lecturers, system lead auditors, policy implementers, stakeholders and administrators that strongly believed that there is

no good reason for failure, we believed in synergetic approach, and we maintained that functional public participation and engagement should be institutionalized in order to achieve a robust implementation of plans, programs, policies, articles, regulations, and conventions as the case may be. It is on this note that the next section discusses the needs for the relevant conventions, regulations, circulars, articles, plans and guidelines that are related to PRF.

III. Relevant Conventions, Regulations And Circulars Related To PRF

One of the reasons for institutionalizing relevant conventions, regulations, plans, procedures, guidelines, articles, circulars, and other related instruments applied in the maritime sector is to guarantee proper management of marine environment through preventive measures. This is because on one hand prevention is better than cure, and it is also better to be proactive rather than to be reactive, on the other. For example, MARPOL 73/78 provides general prohibitions on discharges from ships at sea, and also regulates the conditions under which certain types of waste can be discharged into the marine environment. The MARPOL Convention requires Contracting Parties to ensure the provision of PRF in ports (EU Monitor, 2019). MARPOL Convention comprises of six annexes though only five out of six annexes are relevant to the subject matter (PRF).

- **Annex I Regulations for the Prevention of Pollution by Oil (entered into force 2 October 1983). See Regulation 38 of Annex 1.**
- **Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983). See Regulation 18 of Annex II.**
- *Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992), and no reception facilities are required under Annex III.*
- **Annex IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003). See Regulation 12 of Annex IV.**
- **Annex V Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988) see Regulation 7 of Annex V.**
- **Annex VI Prevention of Air Pollution from Ships (entered into force 19 May 2005) see Regulation 17 of Annex VI.**

In addition to the above and in a specific term, MARPOL waste/residue is used throughout this presentation to refer collectively to all waste streams that are generated on board ships during normal and cargo operations. These are governed by MARPOL, and its relevant annexes:

MARPOL Annex I: oily bilge water; oily residues (sludge); oily tank washings (slops); dirty ballast water; and scale and sludge from tank cleaning;

MARPOL Annex II: cargo residues containing Noxious Liquid Substances (NLS), as defined in MARPOL Annex II; or ballast water, tank washings or other mixtures containing such substances; .

MARPOL Annex IV: sewage;

MARPOL Annex V: garbage as defined in MARPOL Annex V, including plastics, food wastes, domestic wastes, cooking oil, incinerator ashes, operational wastes, animal carcasses, fishing gear, electronic waste (e-waste), cargo residues not harmful to the marine environment (non-HME) and cargo residues harmful to the marine environment (HME); and

MARPOL Annex VI: ozone-depleting substances and equipment containing such substances, and exhaust gas cleaning residues.

Another relevant convention related to PRF is the United Nations Convention on the Law of the Sea UNCLOS (Article 192, 194 211 (2)). For example, the European Union's Maritime Policy aims to ensure a high level of safety and environmental protection. This can be achieved through compliance with international conventions, codes, and resolutions, while maintaining the freedom of navigation, as provided for the United Nations Convention on the Law of the Sea (EU Monitor, 2019).

Similarly, International Convention for the Control and Management of Ship's Ballast Water and Sediments is also relevant to the subject matter (PRF). This convention was adopted on 13th February 2004 and entered force on 8th September, 2017, which requires that all ships are obliged to carry out ballast water management procedures according to IMO standards.

Other Circulars related to PRF

In March 2018, MEPC adopted the MEPC.1/Circ.834/Rev.1 Revised Consolidated Guidance for PRF providers and users, which consolidates in a single document the Guide to good practice for PRF providers and users (MEPC.1/Circ.671/Rev.1) and four other circulars related to PRF (MEPC.1/Circ.469/Rev.2, MEPC.1/Circ.644/Rev.1, MEPC.1/Circ.645/Rev.1 and MEPC.1/Circ.470/Rev.1). Meanwhile, it should be recalled as earlier mentioned that resolution MEPC 83 (44) is the Guideline for ensuring the adequacy of PRF (IMO, 2012).

With regards to regional arrangements, in March 2012, MEPC 63 session adopted, by resolution MEPC.216 (63), the amendments to MARPOL Annex V, which provides that Small Island Developing States (SIDS) may satisfy the relevant requirements of PRF through regional arrangements. This is because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements. The presentation subsequently elucidates the requirements for waste reception facilities and handling plans/guides/procedures accordingly through the next section.

IV. Requirement For Waste Reception And Handling Plans/Guides/Procedures

According to EU Monitor (2019), the Waste Reception and Handling Plans shall cover all types of waste from ships normally visiting the port and shall be developed according to the size of the port and the types of ships calling at port. Waste Management Plans covers all types of prescribed originating from ships normally visiting the port, terminal, jetty, shipyard and offshore installations and be developed according to the size of ports and so on, while taking account of the National Guidelines on the Management of Ship Generated Waste prepared by the NIMASA (Merchant Shipping Act, 2007). Therefore, the waste reception and handling plans shall include the following elements:

1. An assessment for the need for PRF, in light of the needs of ships normally visiting the port;
2. A description of type and capacity of PRF;
3. A description of the procedures for the reception and collection of waste from ships;
4. A description of cost recovery system;
5. A description of the procedure for reporting alleged inadequacies of PRF;
6. A description of the procedure of continuous consultations with port users, waste contractors, terminal operators and other interested parties; and
7. An overview of the type and quantities of waste received from ships and handled in the facilities.

In addition to the above, the waste reception and handling plans include:

1. A summary of relevant national laws and the procedures and formalities for the delivery of the waste to PRF;
2. An identification of point of contact in the port;
3. Waste reception and handling plans description of the pre-treatment equipment and processes for specific waste streams, if any;
4. A description of method for recording the actual use of PRF;
5. A description of method for recording the amount of the waste delivered by ships; and
6. A description of methods for managing the different waste streams in the port.

Source: EU Monitor (2019); Merchant Shipping Act (2007)

Interestingly, the Waste Management Plan provides for the following information to be made available to persons using the terminal or harbor:

a. Brief reference to fundamental importance of proper delivery of prescribed wastes;
b. Location of the wastes reception facilities applicable to each berth, with a diagram or map;
c. List of prescribed wastes normally dealt with;
d. List of contact points, operators and the services offered;
e. Description of procedures for delivery;
f. Description of charging system; and
g. Procedures for reporting alleged inadequacies of waste reception facilities.

Source: Merchant Shipping Act, 2007 p. 11.

The purpose of the guides/plans/procedures is to achieve good practices especially when fully followed and implemented. The arrangements must be such in a way that the receiving operation can be performed as fast as possible to avoid undue delay of the ship (NIMASA, no date). The essence of Waste Management Plan (WMP)/Garbage Management Plan (GMP) for example is to ensure that ports provide adequate PRF for arriving ship (see Ball, 1999, NIMASA no date, EU Monitor, 2019). According to EU Monitor (2019) a port reception facility is considered to be adequate if it is able to meet the needs of the ships normally using port without causing undue delay as specified in Resolution MEPC 83(44)) of 44 session in the year 2000as earlier mentioned. Then, adequacy relates to both the operational conditions of the facility in related to the user needs, as well as to the environmental management of the facilities in conjunction with extant laws/regulations.

It was during MEPC session 59 that the first guides for reception facilities was approved in 2009 and it was revised (reviewed) in 2013 during MEPC 65 session. In April 2014, the Committee approved a Consolidated Guidance for Port Reception Facilities for providers and users and harmonized with MEPC.1/Circ.671 Rev. 1 with other four circulars (IMO, 2018).

Procedures for receiving, storing and treating waste from ships can be divided into three (3):
(1) Oil collection and treatment process: ship – reception facilities (barges, truck tanks) – storage (tanks if necessary) – treatment (physical, chemical, biological) – transportation (barges/trucks).
(2) Sewage collection and treatment process: ship – reception facilities (barges, trucks, pumps and pipelines) – storage (tanks) – treatment (physical, chemical and biological) – transportation (barges and trucks).
(3) Garbage collection and treatment process: ship – reception facilities (barges, truck or container) – storage (containers) – treatment (landfill, recycling, composting and incineration) – transportation (barges / trucks).

Therefore, to determine or measure or assess availability of reception facilities, the following factors should be considered accordingly:
i. Availability and efficiency of port reception facilities;
ii. Conditions of port reception facilities;
iii. Frequency of usage of the facilities;
iv. Differences in procedures and/or costs of using facilities; and
v. Extent of awareness of ship masters or crews.
Source: IMO and UNEP No date.

Specifically, in Nigeria, the procedure for operating PRF is discussed next as recommended by Nigerian Ports Authority (NPA, 2022). The ship agent will request for the following:
1. Collection and carting away of garbage/waste oil generated on-board vessels in the Ports, Jetties and at Anchorages.
2. Movement of Waste to Port Reception and Treatment Facility for further management and disposal.

Documentation
- Vessel MARPOL (Marine Pollution 73/78 Convention) Compliance Inspection Forms; and
- NPA Waste Reception and Collection Certificates

Timeline
Daily Inspection on visiting vessels
Associated Charges
- Refuse Collection- 0.03USD/GRT
- Sludge/Bilge Water Collection – 0.065USD/GRT
- Environmental Protection Levy (EPL) – 0.01USD/Ton

Source: NPA, 2022

Even though it has been established that reception facilities are adequately available in Nigeria, some vessels after declaring specific waste will discharge different waste. For example, instead of discharging oil bilges, hot water will be discharged. This is because of monetary values attached to oil bilges elsewhere.
The knotty question at this moment is to focus on how the case of inadequacies can be reported?
- MEPC 56 in 2007 issued circular MEPC/Circ.469/Rev.1 providing the latest amended form for reporting alleged inadequacies in reception facilities (the very first format had been issued by MEPC 26 in 1988 as MEPC/Circ.215).
- The new format has been disseminated widely and can also be downloaded from GISIS (IMO's "Global Integrated Shipping Information System").
- According to the reporting procedure, following the completion of a report on inadequacies by a ship's Master, the ship's flag State is required to inform the port State of the alleged inadequacies and also to notify IMO, "for transmission to the Parties concerned". Port States should respond to reports of inadequacies, informing the reporting flag State and IMO of the outcome of their investigation.
- Port States should respond to reports of inadequacies, informing the reporting flag State and IMO of the outcome of their investigation. In the last four complete years, IMO Secretariat has received an average of 26 reports on alleged inadequacies per year (over 40% of these being issued by a single flag State).
- With over 50,000 ships of more than 500GT in the world fleet, and assuming an average of at least 10 port calls per ship per year, we have more than half a million port calls per year. If five percent of port calls gave rise to a complaint on inadequacy (25,000) and if only one percent of these complaints resulted in a formal report we should have expected 250 reports annually, which is ten times the number of reports we are receiving.

Source: Mikelis 2012 p. 12-13

Having discussed the requirements for waste reception and handling plans/guides/procedures and briefly assessed what to be done in the case of inadequacies, the next section unfolds the case of European Union first in section five (5) and case of Nigeria in section six (6). This is necessary for the purpose of simplicity and clarity on one hand and to show relationship between EU and Nigeria, on the other. Meanwhile, section seven (7) delves into actions to be taken in tackling the case of inadequacies in a proper context.

V. The Case Of European Union

It is vital to mention that the European Union (EU) has put in place a Directive (EU) 2019/883 on PRF for the Delivery of Waste from Ships mainly to enhance effectiveness of PRF; and thus, Directive 2019/883 amending Directive 2010/65/EU and repealing/revoking/annulling Directive 2000/59/EC (EU Monitor, 2019), though its article 4 focused on issues related to adequacy of PRF for example (European Union 2016). In addition to this, Union has put in place stricter norms and prohibition for the discharges of waste from ships at sea and bans discharges of waste water from open loop scrubbers and certain cargo residues in their territorial waters in accordance with Directive 2000/60/EC. Importantly, the Unions also adopted the revised Consolidated Guidance for PRF for providers and users in line MEPC.1/Circ.834/Rev.1).

Yet, discharges of waste at sea still persist. This was partly because of inadequacy of PRF, insufficient enforcement, member states developing different interpretations to some EU directives (for example 2000/59/EC) on the subject. Greatly, because of inconsistencies of some EU directives with MARPOL Convention framework (adequacy of the facilities, advance waste notification, and mandatory delivery of waste to PRF), this is coupled with lack of incentives to deliver the waste onshore, thus, causing a great impact on environment, social and economic (EU Monitor, 2019). This has led to introduction of framework/evaluation of the Regulatory Fitness and Performance Programme (REFIT Evaluation).

The essence of REFIT Evaluation is to encourage harmonization of related concepts and to enhance full alignment with the MARPOL Convention in order to avoid unnecessary administrative burden on both ports and port users. In this way, Directives 2005/35/EC, 2008/56/EC, 2008/98/EC were introduced and harmonized for the purpose of meeting Sustainable Development Goals. In my own view, this is capable of removing unnecessary administrative burdens for ships and ports. Subsequently, the earlier mentioned directives scopes were equally extended to cover discharge norms via prevention actions/principles, polluter pays' principle, management principle and adoption of waste hierarchy, which calls for the reuse and recycling of waste over other forms of waste recovery and disposal using separate collection of waste system.

In 2017, Regulation (EU) 2017/352 was introduced, which among other things provide rules on the transparency of charging structure applied for the use of port services, consultation of port users and handling of compliant procedures. The EU Commission is expected to engage in a continuous evaluation of all its related regulation and expected to submit the results of such evaluation on best waste prevention and management practices on board ships by 28th June, 2026, as contained in Article 23 Review (1). Thus, the need for notification of the delivery of waste to PRF via standard format (form) in line with Article 6 of Directive (EU) 2019/883) become evitable. This form should be retained on board the ship along with the appropriate Oil Record Book, Cargo Record Book, Garbage Record Book or Garbage Management Plan as required by the MARPOL Convention see Annex V Regulation 9. The form shall contain the following details that centers on Ship Particulars, Port and Voyage Particulars and Type and Amount of Waste and Storage Capacity respectively (See EU Monitor, 2019).

Ship Particulars:
a. Name of the ship:
b. Owner or operator:
c. IMO Number:
d. Distinctive number or letters:
e. Maritime Mobile Service Identity (MMSI) number:
f. Gross tonnage:
g. Type of ship (oil tanker, chemical tanker. Bulk carrier, container, passenger ship, Ro-ro (used to transport all wheeled cargo), other cargo ship and other (to be specified)

Port and Voyage Particulars:
a. Location and terminal name:
b. Last port where waste was delivered:
c. Arrival date and time:
d. Date of last delivery:
e. Departure date and time:
f. Next port of delivery

g. Last port and country:
h. Person submitting the form if other than master:
i. Next port and country (if known):

Type and Amount of Waste and Storage Capacity details:
a. Waste to be delivered (m^3):
b. Maximum dedicated storage capacity (m^3):
c. Amount of waste retained on board (m^3):
d. Port at which remaining waste will be delivered:
e. Estimated amount of waste to be generated between notification and next port of call (m^3).

The next section delves into the case of Nigeria mainly to show the relationship between European Union approaches and Nigeria's implementation patterns/styles, including lessons to be learnt.

VI. The Case Of Nigeria

In effort to implement the content of related MARPOL Convention and its Annexes that are related to provision of PRF by NPA and supervision of adequacy of PRF by NIMASA; the Nigeria Government through the country's Flag State Administration for the past ten years had commenced the implementation processes via ratification and domestication, and putting in place the Generated Marine Waste Reception that is Regulations 2012.

Generally speaking, the Merchant Shipping Act was divided into four (4) parts: 1. objective and application; 2. port waste reception; 3. offshore waste reception and 4 enforcement part respectively. Specifically, the Merchant Shipping Act part I and II covers objectives, application, requirement to provide adequate port waste reception facilities, direction to provide adequate waste reception facilities, requirement regarding waste management plans, approval and implementation of waste management plans, power of agency to direct the preparation of waste management plans, direction to implement a waste management plan, pre-arrival notification, delivery of ship-generated waste, delivery of cargo residues, funding of port waste reception facilities, and exemption (Merchant Shipping Act, 2007).

Part III entails requirement to provide adequate offshore waste reception facilities, agency to license waste management organizations, offshore collection of ship-generated waste, offshore receipt of cargo residues, collection of waste from offshore installations, notification for the collection of offshore waste, funding of offshore waste reception facilities, general guide to developing charges for offshore waste reception and calculation of charges (Merchant Shipping Act, 2007).

Part IV centers on non-compliance or suspected non-compliance, offences, offences by body corporate, inspection and detention of Nigerian Ships, inspection and detention of ships other than Nigerian Ships, enforcement of detention, interpretation and citation (Merchant Shipping Act, 2012). It is vital to mention that these regulations do not apply to any warship; naval axillary or other ship owned or operated by a State and used for the time being, only on Government non-commercial use. Similarly, these regulations do not apply to fishing vessel and recreational craft authorized to carry or designed to carry not more than twelve (12) passengers, as contained in regulations 9 and 12 (See Merchant Shipping Act, 2007).

Even though, regulations were put in place by IMO and the Flag State Administration (NIMASA) had domesticated related regulations through Ship Generated Marine Waste Reception, which is contained in Regulation 2012, the knotty question has remained the extent to which those regulations have been translated into practice? In the past, I have identified factors that might affect effective implementation of regulations within Marine Environment domain in a general term. These factors are complexities of the Nigerian environment, system failures and rivalry among Government Implementing Agencies (GIAs) because of undue recognitions among the GIAs, duplications of regulations at national levels and lack of political will among others see (Lawal et al, 2013; Lawal, 2013 (a) and Lawal, 2013 (b)).

Apart from the recent development where Oil Producers Trade Section (OPTS) and NIMASA had conflict of interest emanating from misinterpretation of regulations, which could have been used towards the country's benefits. In the past, the Nigeria Government through NIMASA, NPA, National Oil Spill Detection and Response Agency (NOSDRA) and other related agencies such Department of Petroleum Resource (DPR)) had overcome all the challenges identified in the above in regards to implementation of Ship Generated Marine Waste Reception via a specific channel:

1. Domestication of related Annexes of MARPOL 73/78 Convention.
2. Championing the process of collaboration and in particular embracing synergic approaches among all the relevant GIAs.
3. Encouraging stakeholders' engagement.
4. Training and re-training of personnel involved in the implementation processes through workshops, seminars and conferences.

5. Availability of qualified personnel with specific role to prevent conflict or ambiguity, including access to necessary facilities that will enhance effective performance. Therefore, the functions or roles of IMO, Flag State and Reception Facilities Unit are discussed subsequently.

For the purpose of clarity, the role of IMO, NIMASA and PRF Unit in the implementation processes is further considered.

Role of IMO

IMO does not act as an enforcement Agency in response to allegations of inadequacy of port waste reception facilities. Nevertheless, the obligation for states to report alleged inadequacies to IMO remains of value. IMO is in a unique position to raise matters of concern with national administrations.

Role of NIMASA

There are measures that the Flag Administration should take to ensure that its ships comply with the requirement of MARPOL 73/78. Apart from ensuring adequacy of PRF, the flag state should:

1. Provide advice to ships plying its waters;
2. Examine on-board arrangements (Safety and counter pollution) during inspections; and
3. Investigate infringement; and prosecute offenders.

Role of the PRF Unit

1. Regular inspection of PRF to ensure provision and availability to ships visiting the Nation's Port without causing undue delay and report to IMO;
2. Quarterly inspection of PRF at all the nation's sea ports (Lagos, Port Harcourt, Warri, Calabar and Bonny Island);
3. Collation and analysis of MARPOL 73/78 wastes data on monthly basis;
4. Enforcement of recommendations from inspection of PRF at the nation's sea ports;
5. Inspection of reception facilities at the terminals and private jetties, shipyards, coastal industrial outlets and harbors to ensure regulatory compliance;
6. Enforcement of recommendations from inspection of PRF; and
7. Appraisal and Approval of Garbage Management Plan (GMP). Having discussed the situation in the EU and Nigeria, the Publication further compares the relationships between the EU and Nigeria via key findings in section 6.1.

Key Findings

The paper observes that there is a strong relationship between the situation in the EU and Nigeria in relation to implementation of MARPOL Convention and adequacy of PRF in particular. One of the main the reasons for the strong relationship between the situation in the EU and Nigeria can be traced to the fact that both have followed IMO Directives, Regulations and Circulars to a larger extent. Although, the issue around the complexities, peculiarities and sharp practices in the Nigerian Maritime Sector cannot be over looked, but this was well managed by the Flag State Administration (NIMASA) through effective and efficient coordination role and collaborative approaches.

Then, some of the sharp practices in the Nigerian Maritime Sector related to PRF revolve around:

1. Some ships discharge hot water instead of oil bilges because of monetary value elsewhere;
2. Third party intervention and interaction with the shipping companies still exist in the Nigerian Maritime Sector;
3. Compliant process and procedure still remain embryonic, as resolutions are not executed timely;
4. There is still evidence of inter and intra agencies conflict among the implementers;
5. Importantly, wastes collected were yet to be fully transformed for society benefits, including waste recycle in spite of current technological advancement, where wastes are used to generate electricity. Therefore, in order to ensure better port reception facilities and services, IMO and UNEP (No date) suggest that the following factors should be put into consideration: status of national port reception facilities; appropriate location; requirements for ships and equipment to collect, store and discharges litter; possible types and quantities of marine litter; possibilities for processing and recycling of marine litter and/or its final disposal; marine litter management policy; and finally funding mechanisms among others.

The paper further observes that EU Member States were operating as a team through a strong regional arrangement by issuing out directives pertinent to MARPOL Convention but Nigeria operates on its own without documented Directives that can be traced to Africa Union or West Africa, as part of regional arrangements. Frankly speaking, all the achievements recorded by Nigeria Government remain the singular

effort of the country stride towards ratifying, domesticating, implementing IMO Conventions and the same is the situation in Ghana for example. The next section unfolds action plans designed mainly to tackle the situation of inadequacy of reception facilities, if occurs, and likely benefits of putting in place adequate reception facilities.

VII. Action Plans To Tackle Any Alleged Inadequacy On Reception Facility

In October 2006, MEPC 55 session approved an Action Plan to tackle any alleged inadequacy of PRF, which might be seen as a major impediment to overcome in order to achieve full compliance with MARPOL. The Plan was developed by the Sub-Committee on Flag State Implementation (FSI) in order to contribute to the effective implementation of MARPOL and to promote quality and environmental consciousness among administrations and shipping. The Plan contained work items that aim at improving the provision and use of adequate PRF, including work items relating to:

- Reporting requirements;
- Provision of information on PRF;
- Identification of any technical problems encountered during the transfer of waste between ship and shore and the standardization of garbage segregation requirements and containment/control identification;
- Review of the type and amount of wastes generated on board and the type and capacity of PRF;
- Revision of the IMO Comprehensive Manual on PRF. This Manual among other things will provide guidance on the provision of PRF for ship-generated waste, as part of the implementation of the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 relating thereto MARPOL 73/78 (IMO, 1999). Although the first manual in this regards was developed in March 1992 at 32 session of MEPC, approved at MEPC 35 session on March 1994, published in 1995 and reviewed in 1999 and updated in 2016 with the tittle 'port reception facility: how to do it' (IMO, 2016); and
- Development of a guide to good practice on PRF for the providers and users. The Guide to Good Practice was intended to be a practical users' guide for ships' crews who seek to deliver MARPOL residues/wastes ashore and for port reception facility providers who seek to provide timely, efficient port reception services to ships (IMO, 2009). The guide itself was made available since 2006 and it can be downloaded on GISIS website of IMO. We would argue that an effective implementation of the content of Convention related to PRF can be achieved when manual on PRF and the guidelines for ensuring adequacy are applied correctly (IMO, 2009).

In addition to the above, the followings were incorporated to achieve effective implementation of related regulations and thus, making a robust reception facility reality:

- As part of the activity to support achieving an effective Action Plan, a standard Advance Notification Form was developed to enhance the smooth implementation and uniform application of this requirement, thus minimizing the risk of a ship incurring delay.
- In addition to the above, a standard Waste Delivery Notification form was equally developed to provide uniformity of records throughout the world. This is necessary to achieve standardization around the world.

Source: IMO, 2019

Outcome of the Action Plans on any alleged inadequacy related to PRF

- MEPC 61 agreed to the proposals for the revision of the IMO Comprehensive Manual on PRF under the Integrated Technical Co-operation Programme (ITCP) (IMO, 1999). In the same manner, MEPC 61 also approved the Plan of Assistance and Training on PRF for Developing Countries and endorsed it as a priority theme for the ITCP biennium 2012-2013.
- Two major events are planned. The International Organization for Standardization (ISO) 21070, Management and handling of shipboard garbage, published in 2011, addressed the requirements of several work items including the segregation of garbage on-board ships. Members of the FSI correspondence group contributed to the work of ISO. ISO further proposed to develop a standard for the receipt in ports of garbage that has been segregated onboard.
- ISO with input from individual delegates of FSI is contributing a new standard for the design, construction, equipping, management and operation of PRFs. ISO 16304: 2013/2018 - Marine Environment Protection - Arrangement and Management of Port Waste Reception Facilities.

Source: Mikelis 2012 p.35; https://www.iso.org>obp; European Union, 2016

I would further suggest that the principle of sustainable development goals should be embraced to achieve Cleaner Ocean and agenda 14 is relevant to the sector (See Figure on Sustainable Development).

Source: Morton et al, 2017

The above table confirms the relevant and connection of Ministry of Marine and Blue Economy to the Global Goals popularly known as Sustainable Development Goals and Goal 14 in particular (Life below Water), which is pertinent to us (NIMASA, NPA, MAN, NSC, and NIWA). According to Lawal (2012, 2013a, 2013b and 2014) Sustainable Development Goals can be achieved by embracing principle of being proactive rather than being reactive, as prevention is better than cure, which can be achieved through a robust application of related policy such as Environmental Impact Assessment (EIA).

Importantly, the Minister of Marine and Blue Economy has equally mandated all the Agencies CEOs under his supervisions to deliver not only the related Sustainable Development Goals alone and but also to deliver the recent ministerial KPIs/deliverables (such as develop and implement national policy on Marine & Blue Economy, deployment of an effective security architecture for the Exclusive Economic Zone and promote indigenous participation in Maritime Sector in line with Cabotage Act 2003) by signing performance bonds from 2023 - 2027 (See Egole, 2023). The benefits of PRF are discussed next.

Benefits of PRF

The benefits of port reception facilities cannot be fully appreciated without understanding in a general term, the potential and responsibilities of all parties (ships, ports and companies). For the purposes of simplicity, the responsibilities of all parties (ships, ports and companies) are shown below in a tabular form.

S/N	Ships	Ports	Companies
1	Declaring the volume of waste to be discharged	To develop waste reception facilities.	Signed a contract with the port for receiving, transporting and treating waste from the ship.
2	Singing contract with the port for receiving and treating waste.	Signed a contract with ships for receiving and treating the waste.	Receipt of expenses for receiving and handling according to regulations
3	Coordinating and facilitating for the reception of waste.	Collecting waste from ships in accordance with regulations.	The companies should identify gap(s)/difficulty related to translating regulations into practice.
4	Pay the fee	Singing contract with the ports that have been licensed to support the process and keep your records.	Singing contract with the companies that have been licensed to support the process and ensure that proper documentation is adhere to.

Therefore, one of the main benefits of PRF is to prevent or mitigate the impacts of marine environment pollutants from ships deliberating discharging waste into the sea. In order to fully tap into the benefits of PRF, it should be provided at the following ports:

- Sea port and terminals entertaining ships with sludge tank;
- All ports which have ships generating oily bilge water and other residue that cannot be discharged into the sea;
- All ports which are loading crude oil;
- All ports loading and discharging bulk cargo in respect to oil residue from combination carriers;
- All ports and terminals in which 1000 Tonnes/ day oil other than crude oil is loaded; and

- All port having ship repair yards and providing tank cleaning facility.

Source: NIMASA, No Date

VIII. Conclusions And Recommendations

Conclusions

One of the conclusions emerging from this paper is that putting in place preventive measures is always better than waiting to solve the problem after it has occurred. This is what has been described as process of being proactive rather than being reactive. It is less expensive for a nation to prevent/mitigate environmental menace. A robust preventive measure will be achieved by domesticating and implementing related regulations, plans and procedures that gears towards achieving a clean environment. Even though related Act warrants violators to pay not less than Ten Million Naira penalty or two years imprisonment (Merchant Shipping Act, 2007), but the extent to which such penalty has been translated into practice remains not fully understood. It has argued that in developing countries process of arresting the violators has remained ineffective to an extent (Lawal 2014) and possibly because of knotty corrupt practices (Lawal and Salawu-Adeitan 2020). This has made several authors to describe regulatory systems in the developing countries as embryonic (Kakonge, 1999), emergent (Ogunba, 2004) and in part contradictory (Lawal, 2012, 2013a, and Lawal, 2014). In the same manner, some of the developed nations still struggle and remain reactive in addressing environmental menace. For example, the recent incident of oil spill in Trinidad and Tobago from what was described as mystery ship is a case of bad practice, where the cost of cleaning up alone is quiet expensive than translating into practice the contents of achieving preventive measures (See CBC News, 2024).

Meanwhile, the cases of Nigeria and EU as discussed in section four and five respectively are examples of good practices. In the past, the Netherland has been described as one of the best countries in the world in managing the environment but presently, it is now Sweden, follow by Japan, Norway, Switzerland, Denmark, Finland, Germany and Netherlands respectively (See Volunteer FDIP, 2024). Therefore, it is vital to unfold what makes these eight aforementioned countries to be the best in managing the environment. Few things that are common to all the best eight countries earlier mentioned are their mindset, eagerness and commitment towards implementation of related regulations on one hand and readiness in promoting sustainable solutions to improve the environment condition for example mitigating pollution of all types and adopting green technology techniques, on the other. The examples of worst countries in terms of managing the environment are Pakistan, Afghanistan, and Sudan among others (See Werft, 2017). The good news is that Nigeria is far from the worst countries but rather Nigeria is closer to the identified best countries in terms of its commitment towards implementation of related regulations but there are needs for an improvement.

Despite the fact that there are some sharp practices related PRF in the Nigerian Maritime Sector, the Nigerian Government was able to achieve greatly in managing marine environment because of pivotal role played by the NIMASA Management through effective domestication processes, embracement of synergic approaches, engagement of stakeholders via brainstorming exercises/workshops and robust supervision of the operators among others. While other Government Implementing Agencies (GIAs) within the Ministry of Marine and Blue Economy remains very supportive in providing functional services. For examples NPA through Africa Circle provides PRF, NIMASA still inspects adequacy of PRF being a regulatory agency/Flag State Administration, as inadequacy of PRF has been identified by IMO in the past from some countries (IMO, 2018). The Maritime Academy of Nigeria is the only approved government training institution mandated to assist efficiently in the areas of providing standards of training and development where necessary in line with the contents of International Convention on Standards of Training, Certification, and Watch-keeping (STCW) 1978 as amended.

Recommendations

In view of the above conclusions and the research findings in particular, this paper suggests the following recommendations among other things:

1. Stringent delivery norms should be adopted by the responsible agency or agencies to cope discharge of oil bilges waste for example. The responsible agency or agencies are required to enforce and monitor the activities of shipping companies in this regards to prevent any sharp practices such as discharging hot water instead of oil bilges because of its monetary values elsewhere. Failure to declare wastes correctly is an infringement against the regulations and it should be treated as such. Meanwhile, catering waste should be incinerated or 'disposed of by burial' in an authorized landfill (EU Monitor, 2019, p. 26), though this is not applicable to intra voyage (international voyage as contained in SOLAS and MARPOL Conventions).
2. I would suggest that a recovery cost system should be a continuous type, which requires the application of an indirect fee alongside with polluter pay principle. Though such indirect fee should be reduced for those vessels designed, equipped or operated to minimize waste in line with IMO guidelines and standards developed by International Organization for Standardization. In fact, some African countries started the

indirect fee system (where ships have to pay whether the ship generate waste or not) even before European Union, kudus to the African Countries and Nigeria and Ghana in particular. Moreover, the authority in Nigeria should ensure that third party intervention and interaction with the shipping companies should be monitored for the purpose of simplicity and transparency.

3. Compliant procedure should be improved on by directing complain to the contact person strictly and resolution should be executed timely. This is necessary to enhance customers' confidence in doing right business and uniformity will be guaranteed. Introduction of common methodology and criteria should be embraced to eradicate the problems related to implementation of adequacy of reception facilities on one hand and ensuring that no delay is caused to ship operation, on the other. Update of the IMO's GISIS system should be carried out on a regular basis continuously to provide the latest information to port reception facility users (IMO and UNEP No date p. 12). This implies that system of reporting is done remotely for easy accessibility. If this is done correctly, the country's positive image will consistently be guaranteed.
4. The Flag State Administration should set up Sub Technical Group on Port Reception Facilities with the main mandate of achieving sustainable marine environment to enhance sustainable shipping using a holistic/integrated approach through a sound synergetic process. Then, the composition of such sub technical group should cut across all the relevant agencies in Nigeria covering both inter and intra agencies, which is capable of solving conflict among government implementing agencies. Thus, a strong political-will is further suggested to guarantee effectiveness and efficiency of collaborative efforts in practice.
5. Flag State, Port State and port reception facility personnel should be trained continually beyond learning on the job. This is necessary to meet the challenges of technological development and innovation. Presently, wastes are being used to generate electricity in some part of the world at the moment. It should be equally noted that even though MARPOL does not contain any requirement for the treatment of ship generated wastes/residues once received in a port reception facility, and it contains only requirement for the discharge (IMO, 2016). Moreover, the *Guidelines for ensuring the adequacy of port waste reception facilities* (resolution MEPC. 83 (44)) reflects that the facilities provided by the port should allow for the ultimate disposal of ships' waste to take place in an environmentally appropriate way. In this context, the use of IMO Comprehensive Manual is highly recommended, as it explicitly elaborates on the further downstream management of wastes and residues once received ashore.
6. There is a need for a robust collaboration among the African countries in the area of managing/ solving/ tackling likely marine environment menace in particular. Therefore, Africa Union should encourage synergetic processes among its member states to tackle marine environment related menace and learn from the European Union in this regards.
7. Therefore, in order to achieve greatly in the Nigerian Maritime Sector in relation to implementation of requirement of PRF, a strong political-will is further suggested to complement the effectiveness and efficiency of collaborative efforts already in practice.

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