

Summary Report – 3rd African Ports Environmental Study Visit 18-22 March 2019, Rotterdam

1. Introduction

The Study Visit was the third under the African Ports Environment Initiative (APEI) of Ports Environmental Network Africa's (PENAF). It was organised by PENAF in collaboration with the Port Management Association for West and Central Africa (PMAWCA), Human Environment and Transport Inspectorate (ILT) of the Dutch Ministry of Infrastructure and Water Management, European Association for Port Reception Facilities Providers (EUROSHORE), Shipping and Transport College (STC International), and Port of Rotterdam. It ran for five days, 18-22 April 2019. The study visit aimed at supporting environmental capacity building for African ports to enable them act jointly in tackling their common environmental challenges through cooperation and networking. This was sought to be achieved through learning lessons and sharing environmental knowledge and best practices for improving environmental performance in ports.

African ports are progressively developing and growing, with increasing operational activities. The development is a boost to African economies but associated with negative environmental implications, which if not tackled could erode economic gains made. Attention to understanding ports and the environment nexus and taking proactive actions are therefore needful for the sustainable development and growth of African ports.

Overall, presentations and discussions got delegates actively engaged in sharing practices, experiences, challenges and opportunities for addressing environmental issues in their individual ports. There were site visits also. These got delegates to appreciate the need to work together on their common environmental problems.

2. Delegates and Presenters

The study visit was attended by 46 delegates from the Ports of Abidjan, Conakry, Douala, Gabon, Gambia, Kribi, Pointe Noire, Sierra Leone, Takoradi, Tema, Togo, and Mpulungu (Zambia).

It was facilitated with moderation and presentations from Jenny van Houten (ILT), Walter Klomp (ILT), Marja Tiemens-Idzinga (MCTI), Maarten de Beus (ILT), Marina de Gier (ILT), Frank Peen (ILT), Peter van Breugel (DCMR), Christaan van Westing (DCMR), Maurice Janssen (Erasmus UPT), Prof. Tiedo Vellinga (TU Delft), Ron van Gelder (Port of Rotterdam), Imke Driebel (Port of Rotterdam), Jan Willem Verkiel (Port of Rotterdam), Herman Journee (ECOSLC), Roel de van der Schueren (Port of Amsterdam), Harry Barnes-Dabban (PENAF), Guido Van Meel (Euroshore), and Sotiris Raptis (ESPO).

3. Presentations

3.1 *African blends*

This presentation focused on the monitoring of quality of fuel in the fuel chain (fuel oil and car fuels) for West Africa. It was explained that the desired Dutch objective is to have fuel producers blend their stocks without unnecessary risks to humans and the environment. Unfortunately however studies show that fuel blends to West Africa contain ingredients that pose human health and environmental risks. A publication by Swiss NGO, Public Eye (Sept 2016) had revealed dirty diesel being exported to West Africa for use by vehicles. Report of a Dutch research (July 2018) on diesel and gasoline shipments to West Africa between 2012-2016 was also shared. Blend stocks were found to contain very high Sulphur and Polycyclic Aromatic Hydrocarbons. Almost all

gasoline for West Africa contained octane boosters based on manganese. It was further explained that the fuel quality is improved using benzene and manganese additives, which have carcinogenic implications and should not be allowed. They also pose risk to engines of modern cars. Delegates were encouraged to do advocacy and raise awareness in their individual countries and cooperatively for action to be taken on improving standards required for imported fuels.

3.2 MARPOL 73/78

Presentations on MARPOL explained the Convention and various approaches to its domestication and implementation. The problems of weak capacity for operation and management and inadequate port reception facilities were highlighted. The need for ports to have harmonised regulatory measures in order to avoid vessels exploiting implementation weaknesses of the Africa region was emphasised. In this regard, relevant institutions as environmental agencies and maritime organisations would have to be empowered together with port authorities through capacity building and trainings to play their complementary roles effectively. Participants were admonished to explore the option of public-private partnerships in the provision of adequate port reception facilities. Discussions touched on issues of approaches to charges for the use of port reception facilities. Current practices in African ports showed direct and indirect charge systems. In accordance with the spirit of MARPOL, it became evident that the different practices need to be harmonised in order not to give incentives to ships to dump wastes at sea but rather follow the obligation to discharge into port reception facilities.

3.2 E-waste Regulation, Implementation and Monitoring

The presentation discussed the European WEEE Directive and Waste Shipment Regulation, especially Annex VI, on Rules Regarding Export of Used Electrical and Electronic Equipment (UEEE). It explained responsibility of retailers and importers to collect and treat a 65% target of e-waste, the obligation of municipalities and retailers to collect e-waste and processors of e-waste to treat and recycle them according to given standards. The conditions for buying UEEE in The Netherlands for export to countries including those in Africa, in which the exporter must have an invoice, contract of sale/transfer of ownership stating that the piece of equipment is fully functional and is intended for reuse, was explained. Detailed guidelines for exporting UEEE and the health and environmental risks for unorthodox dismantling of E-waste for extracting valuable components, and disposal were shared and explained. It became evident that there was the need for African ports and relevant stakeholders to be equipped with adequate capacity to develop integrated action for monitoring and inspecting UEEE/E-waste shipments. Most important of all, there was the need for African countries and ports to have UEEE/E-waste shipment rules and guidelines in place and work together with authorities in countries of shipment in information sharing and collaboration to prevent waste dumping.

3.3 Clean Shipping – Emission Discharges

The presentation focused on addressing emissions from shipping – CO₂, NO_x, SO₂, PM etc., which is seen as a public health problem. The effort to balance safety with sustainability in shipping through the reduction of emissions and discharges to the environment was explained. Five tracks for achieving this balance were mentioned as: total SO_x compliance in Dutch waters; international MARPOL cooperation; fuels from Netherlands conforming to regulations; working towards increasing amount of waste delivered in Dutch ports; and Dutch pioneering international role in supervision and enforcement. Enforcement efforts currently include airplane surveillance, measuring pole, drone inspections, on board checks, and XRF measurements. The next steps to

be adopted include remote sensing to lower Sox standard to 0.5% in the open sea. The approach uses cooperation between ports and risk based targeted inspections of ships. Cooperation among ports, together with international collaboration thus become reinforcing for African ports to pursue in their quest for environmental improvement.

3.4 Environmental Quality Monitoring

The presentation looked at air quality monitoring in the Rijmond area of the Netherlands. It shared how environmental permits were granted, together with monitoring and enforcement; data and knowledge generation; national and international consultancy; and emergency response. The e-nose network, as a citizens participation programme and an early warning system for monitoring dour and changes in air quality, was shared and explained. DCMR's experiences with air quality consultancy done for the Port of Sohar in Oman revealed the possibility of replicating such arrangement with African ports to help them establish environmental quality monitoring regimes to generate data for policy making and pragmatic actions. Delegates expressed the lack of any such monitoring in their ports and expressed interest in initiating some action in that direction.

3.5 Activating SDG's in ports

The presentation discussed the ports and Sustainable Development Goals (SDGs) nexus. It explained that sustainable ports (transport) is a key enabler for inclusive economic development and social growth that has due consideration for the environment. This makes SDGs pertinent for ports. It was therefore emphasised that ports in the 21st century have to pursue the development and implementation of systems that strengthen profitability and growth while at the same time improving the environment. For ports in the developing world however, their efficiency to achieve this was being limited by the lack of infrastructure and knowledge. What is more, pursuing inclusive port development with social and environmental benefits was explained to come with paradoxes as: free trade, free from poverty; living wages, healthy companies; clean ships, clean oceans; more port activities, more tolerance to grow; lower operational costs with cleaner fuel and zero emissions; more space for the port, more space for the people and planet; more automation, more jobs; a shift to renewable energy, a shift to sustainable port growth; and society development as well as port development. These offer a fundamental contradiction between port development and growth on one hand, and sustainability on the other. The good news however is that, there is the World Ports Climate Initiative (WPCI), guided by the 17 SDGs, aimed at enhancing and coordinating future sustainability efforts of ports worldwide and foster international cooperation. The presentation emphasised cooperation and partnerships among states, businesses and civil society as having become important for ports to make smart and sustainable investments in applying inclusive growth for their human and port infrastructure development. The presentation generated a lot of interest as delegates realised that their ports have not yet switched to the 'Ports and SDGs Nexus' way of thinking and must be supported to get involved and strengthen efforts at regional port cooperation and international collaboration.

3.6 Integrated sustainable port planning

This presentation was about a research on integrated and sustainable port development within an African context using the case study of Tema port in Ghana. It discussed tools for port planning developed during the research. The presentation focused on working/building with respect for nature; stakeholder inclusiveness and co-creation of values; integrated adaptive design; new knowledge; and green growth. Outcomes of the project were shared. These included a framework of best practice guidelines for implementing integrated and sustainable port development in

Africa; tools for using remote sensing data that integrates ecological data, and methods for stakeholder-inclusive port planning; a network of community of researchers, private sector practitioners and port-related stakeholders. The presentation ended with a desire to apply lessons and outcomes to another African ports to assess suitability or otherwise. Some delegates expressed interest for their ports to be used. This calls for further deliberation.

3.7 Port of Rotterdam and environmental sustainability

The presentations shared the handling of ship generated wastes, and where sustainability and port business meet in the Port of Rotterdam. The financial system, notification, disposal obligation in handling ship generated wastes, port waste management plan, and enforcement of the EU-Directive 2000/59 regulating port reception facilities in the EU were explained. It was observed that after 15 years of implementation of the Directive, solid waste (Annex V) discharged in the Port of Rotterdam had quadrupled while liquid waste (Annex I) had more than doubled. The port authority was said to have initiated a new focus on circular economy, recycling and reuse to promote sustainable practices. Other initiatives shared and discussed included Green Deal Shipwaste; Air Emissions; Shore Power; Degassing; Sewerage Discharge; Bio Fouling; Transparency in Waste Chain; and End of Waste Criteria. Regarding where sustainability meets the Port of Rotterdam, three major challenges driving sustainability efforts were identified. These were: Change is everywhere – with respect to Volatility, Uncertainty, Complexity, and Ambiguity (VUCA); Digital transformation; and Energy transition. The philosophy for the port was explained to be to ‘think big and act small just by doing it step by step’. The common sense, technology efficiency and emission reduction approaches adopted through the ‘Plan, Do, Check and Act’ (PDCA) for continuous improvement, ‘Dare to Share’ and ‘Digital tools for risk management’ adopted to optimise port call were also shared and explained. The presentations inspired interesting discussions among delegates on ways for adapting these approaches to the contextual situation of their ports.

3.8 EcoPort Tools for sustainable ports and hinterland logistics

The presentation explained EcoPort Certification as the only port-specific environmental management system globally. It was developed by ports and for ports and port terminals. EcoPort Tools - Self-Diagnosis Mechanism (SDM) and Port Environmental Review System (PERS) – were explained to facilitate practical and systematic ways for ports and port terminals to integrate environmental considerations into their operational and decision-making processes. SDM was explained as a concise checklist for periodical self-evaluation of performance and identifying environmental risks while establishing environmental priorities for ports. PERS was also explained a tool for defining a global port standard of best practice for reviewing and reporting on significant aspects of port environmental management. The tools therefore enable ports to combine environmental improvement with business improvement. African ports, for instance, without organised formal lines of evidential environmental information can use EcoPort Tools to align their existing operational and environmental procedures and practices in a manner that would offer them environmental sustainability with economic (profitability) progress while adding value to their operations and services. The various steps for using EcoPort tools were discussed with delegates taken through a hands-on exercise for registering to be part of the EcoPorts network. The benefits of joining the network were thoroughly discussed.

3.9 Waste solutions in Shipping

This presentation focused on Euroshore's mission of contributing to the conservation of the oceans by leading the best practices in waste management for the maritime industry. Relevant international policies, procedures and standards of competence for collecting and processing ships' waste were shared and discussed. It was presented that members of Euroshore handle more than 2/3 of oil waste collected in Europe. They have treatment capacity of more than 4.000.000 m³/year with more than 250.000 m³ of storage capacity. Altogether, they have over 100 barges 200 trucks for collecting MARPOL wastes. Euroshore expressed interest in investing in new challenges and providing training and consultancy, if necessary, for African ports in order to establish and upgrade port reception facilities and services in African ports.

3.10 Port vision and policy for Port of Amsterdam

The presentation presented the Port of Amsterdam as the Port of Partnerships. The port is the 4th largest in Western Europe handling 101 million tonnes of transshipment with 6.8 billion Euros added value. Its large markets include energy, agribulk and cocoa. The port seeks to strengthen, connect and realise energy transition and circular economy, healthy living environment, clean and safe shipping, work and knowledge, and responsible commercial chains. These are in line with Sustainable Development Goals (SDGs) 7, 9, 13, 3, 11, 8 and 12 through which the port seeks to become a sustainable one. The presentation shared and discussed the interest of the port developing partnership with African ports and sharing knowledge through international collaboration to support the environmental capacity of the ports.

3.11 Site visits

Delegates were taken on a couple of site visits. They visited Port of Rotterdam's Maasvlakte II, Bek & Verburg (a port reception facility provider), B&D Logistics (UEEE Loading station), Luca Testing (for testing and certifying shipment of UEEE), MAC-2 and MTD (both port reception facility providers for port of Antwerp). The visits gave delegates a physical and hands-on feel of how ships wastes are received and treated, and also how UEEE shipments are regulated to prevent dumping of wastes in recipient countries, mostly in Africa.

4. Action Plan

The study visit ended with a working session during which delegates transferred lessons learned and knowledge gained into an action plan for implementation in their individual ports as part of measures for improving environmental performance. The delegates were taken through PENAF's African Ports Environment Initiative (APEI) aimed at initiating and building a co-ordinated environmental network among African ports to serve as a platform for environmental information and best practice exchange. The objective of APEI is to promote the improvement and harmonisation of environmental policy and performance in African ports through a regional cooperation and international collaboration. The delegates were made to appreciate that their ports share common environmental problems that require cooperation and collaboration to address. No one port can be an island and work on its own.

The action plan prioritised environmental issues with action steps needed to address them. Given time constraint, the action plan is by no means exhaustive. It can be considered as a first step at getting different African ports to engage interactively to inventorise their common environmental issues, prioritise them and identify how to address them based on exposure to international practices, experiences and knowledge in an international setting. There is the definite need for

follow-up, possibly in West and Central Africa, to take delegates through a comprehensive action plan workshop in the form of capacity building and training for the development of an actual and realistic action plan document for adoption and implementation by the ports.

The Action plan is attached as Appendix 1.

5. Follow-up actions and recommendations

A meeting is as good as follow-up. It is therefore pertinent that the success achieved from the organisation of the study visit is translated into pragmatic action to further the study visit's objective of supporting environmental capacity of African ports to enable them improve environmental performance. Outcomes from presentations and discussions from the study visit reonate four potential key pathways that could enable the reduction of environmental risks, foster interactive and coherent environmental policy-making, and ensure the sustainable development of African ports in ways that integrate commercial growth and profitability with environmental considerations. These are:

- **Environmental Awareness Raising**
- **Environmental Capacity Building and Training**
- **Promoting Regional Environmental Cooperation and International Collaboration**
- **Development of a Common Port Environmental Management Framework (Port Environmental Code of Practice)**

The pathways have the potential of aligning the development and growth of African ports with SDGs. To pursue this course, PENAf seeks to recommend that all the partners that supported the hosting and organisation of the study visit work collaboratively to consolidate the four potential pathways into follow-up actions in an African ports-Dutch (Europe) environmental collaboration initiative. This will fall broadly under PENAf's African Ports Environment Initiative. The Port Management Association for West and Central Africa will be the umbrella organisation to host the organisation of the follow-up actions on behalf of the African ports. The Port Management Association for Eastern and Southern Africa (PMAESA) could be roped in, in due, should it become interested for its member ports.

6. Funding

Initiating the collaboration to work together as partners for supporting environmental progress in African ports will require funding. In this regard, funding opportunities available from the Dutch development cooperation and assistance. Such assistance mostly require a Dutch institution as lead partner. Dutch partners in this collaboration therefore come in handy.

It is worth noting that the initiative comes up as a two-way street with benefit for African ports on one hand and on the other hand, providing potential opportunity for promoting Dutch business in Africa.

7. Conclusion

The study visit was overall very successful. PENAf is grateful to all the partners that supported its organisation and look forward to working together on the next steps. PENAf is currently working on developing a draft proposal for discussion and fine-tuning into a project by all partners to operationalise a follow-up action.

8. Some impressions from delegates

Huge effort at environmental management in ports

Relevant study visit; Very practical

Organise it regularly because the more people you speak to, the more they know it is very serious

Very important platform for African ports; Involve other port stakeholders

Good example for improving port environmental management

Bring European delegates to Africa so that they see the real situation in Africa

Has increased my attachment to environmental protection and implementation

Establish best practice and collaboration for implementation in our ports