

Sri Lanka Ports Authority: Moving towards an exemplary green environmental footprint of the South Asian region

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Summary: This article first summarizes the environmental issues and challenges that the port and shipping industry is currently facing. This is based on the author's personal experiences as a port employee and facts from scientific articles written on marine environmental impacts. Next the article presents how Sri Lanka Port authority as a responsible employer has taken steps to manage the growing stakeholder awareness on environmental issues and how it is been tackled in a practical manner. Finally the article discuss the how different strategies and actions implemented by SLPA to enhance environmental performance has resulted in improving overall business performance of the organization.

Topic: Environmental Impacts & Stakeholder Communications

Summarize the key environmental challenges facing your industry environment and explain what your organization is doing to manage the growing stakeholder awareness of environmental issues. How this is contributing to the relationships you have with your community, stakeholder groups and to the overall success of your business?

Introduction to Sri Lanka Ports Authority and operations

Sri Lanka Ports Authority (SLPA) is responsible for the development, management, operation and control of the ports around Sri Lanka. The main commercial port at Colombo which is been under expansion is known as the Heart of the nation. Currently ranked among the top 30, it is progressively moving forward to be a bench mark for this region with state of art infrastructure and increase in container handling capacity, thus it will not be too far from being a shipping hub in the region.

The deep sea port in the South, namely the Mahinda Rajapakse Port in Hambanthota located approximately 12 km from the shipping lane will be a key service center and Industrial port. The port at Galle will also be developed as a yacht marina and a tourist destination, meanwhile Trincomalee, arguably one amongst the best natural harbors in the world will be developed as a special economic zone and will be an industrial port.

The port expansion project is to been flanked by another reclamation project which is the Colombo port city project. The total area of sea to be reclaimed is 450 acres. The port city will include shopping areas, water sports areas, a mini golf course, hotels, recreation areas and marinas.

The shipping and ports sector has been facing challengers in keeping up with the environment demands that has been rising. The demand for a more green port and environment friendly vessels has been the growing trends. SLPA as a responsible employer has kept up to the demands by implementing many strategies towards being an environmental friendly port.

Environmental Impacts due to Ports and shipping in Sri Lanka

The coastal region of Sri Lanka has been more and more subject to pollution during the last few decades (CZMP, 2006). The fact that Sri Lanka is within the proximity of the east west

shipping route and emerging as a shipping hub has made the Sri Lankan seas more vulnerable to the Pollution from the shipping activities

The shipping industry has brought much technological advancement to improve environmental performance of vessels in maritime transport but considering the volume of shipping activities the pollution of seas has been recognizing as a serious problem. Even though the marine environment is threatened by the usage of multiple uses, maritime transport plays a prominent role in harming it (Halpern et al. 2008). Different Marine pollution due to shipping is summarized below,

1. Noise Pollution from ships
2. Oil spills, regular and accidental activities of vessels
3. Vessel Strikes on Marine Mammals
4. Impact due to use of Antifouling paints & Antifouling Systems
5. Discharge of ballast water and related pollution
6. Air pollution of shipping activities
7. Introduction of Invasive Species due to shipping
8. Sewage & waste water disposal
9. Marine pollution due to port expansion projects

Noise Pollution from ships

The Noise pollution emerges as a main topic in terms of shipping impacts on the marine environment mainly due to the fact that vessels generate a large noise that may impact the behavior of marine mammals in the oceans.

Oil spills, regular and accidental activities of vessels

The oil production from the source to its storage and then to its consumption area is a risk for the environment which can bring about great harm. The damage could be for the ecosystem and for the human society

Vessel Strikes on Marine Mammals

Vessels strikes with mammals are an environmental consideration concerning the shipping industry. Marine mammals are expected to move away from the vessels as they get in their way but factors like they are mating, feeding, resting or in an ascend to the surface of the ocean their response time may not be enough to move away. (Abdulla, 2008)



A picture of a dead whale found in the Port of Colombo which was hit by a vessel.

(Source: SLPA Media Unit)

Impact due to use of Antifouling paints & Antifouling Systems

Anti-fouling paints are used on the vessel hulls so that it is protected from the growth of marine organism on it. It has been found that it has adverse effects in non-target organism.

Discharge of ballast water and related pollution

It is estimated that over 10 billion tons of ballast water are been moved and distributed around the world per year (Battle, 2009). The invasive species that is introduced by ballast water might not have predators which will make them grow soon and then compete with the existing species for food, space and light. These non-indigenous species can severely affect the structure of the ecosystem

Air pollution of shipping activities

The pollution that shipping contributes in terms of air pollution is significant. The shipping around the globe contributes to air pollution due to its operations emits gasses like NO_x and SO₂. Due to the fact that 80% of the world fleet is around ports or navigating near coastal areas (Meer, 2012) many people live near port cities and the delicate ecosystems are risked and impacted by this air pollution.

Sewage & Waste water disposal

Through Sewage disposal it may lead to the addition of pathogens and nutrients to the water which may result in bad water quality. The contamination of waters passes diseases to humans in contact with the water or through the food chain where contaminated shellfish will pass it to humans.

Marine pollution due to port expansion projects

Port expansion projects are bound to marine pollution in many ways. The Dredging & Reclamation of the land will result in damaging the marine floor and polluting the waters.

Therefore it could have effect on the existing marine life and seabed. Moreover this dredging and reclamation affects the other coastal areas resulting of erosion of and coastline damages.

Managing the growing stakeholder awareness of environmental issues

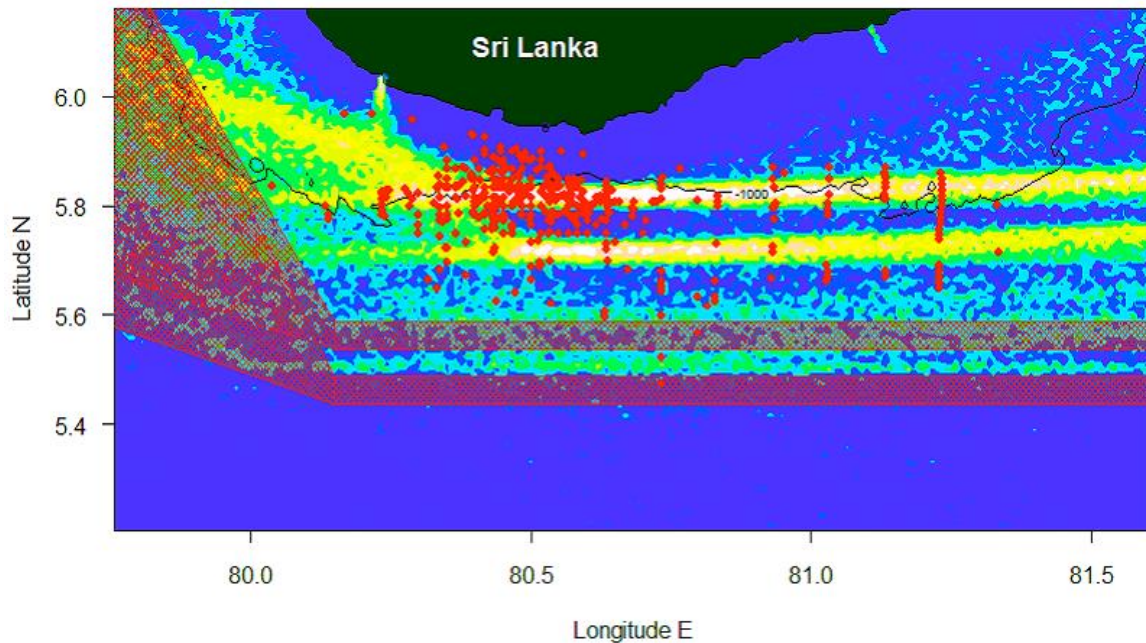
The shipping and ports sector has been facing challengers in keeping up with the environment demands that has been rising. SLPA consider stakeholder participation is an important factor in increasing the greener environmental footprint of ports and shipping. There for it should be identified who should be involved and whose ideas and opinion that should be sort. The correct moment to involve stakeholders and how to involve them is crucial. The challenge arises to pick the correct stakeholder at the right time and involve them in the right way.

The current Colombo port expansion and Port city development project came under severe criticism from the environmentalist and fishermen. As per discussions and suggestions to prevent the coastal erosion the coast had to be equipped with rocks and barriers. Moreover to minimize the dust at the rock loading points to the port city the loading point has to be covered so that the noise and dust is minimized.

In response to community complains on traffic congestion and pollution levels around port of Colombo. SLPA team up with urban development specialists to evaluate projects and conducted a feasibility report for an inland dry port connecting with the port of Colombo through multimodal transport (Road & Rail). The implementation of such project will ease the traffic congestion of the current port and also decrease the air pollution. This might increasing yard space for the current terminals so that it could accommodate more cargo and attract more business.

The marine mammals activities and habitats near the sea in the down south of Sri Lanka is been identified. Nineteen different whale species have been recorded in Sri Lankan waters by the Centre for Research on Indian Ocean Marine Mammals (CRIOMM). This has been used as a tourist attracting site. Many local and foreign tourists visit the down south sea to have a glance on these majestic creatures. This makes whale watching one of Sri Lanka's many tourism attractions, but the fact that the east west shipping route is fallen in the south of Sri Lanka and the many vessels come in and out of the country ports are moving through this area these marine mammals are in enormous danger of collusion with vessels. Marine environmentalist as well as the tourist tour operators has raised their concern on this and SLPA has a responsibility to help in the conservation of marine mammals by suggesting vessel rerouting.

The following Diagram explains the Marine mammal activities in southern sea and the shipping routes. The two yellow lines indicate the shipping route the vessels travelling in and out of the country ports. The red dotted indicated the marine mammal activity areas and the shaded red routes shows the international shipping route that falls in the southern sea of Sri Lanka.



Shipping routes and Marine Mammal activities (Source: Azwer, 2015)

It is important that even a small measure is taken to safeguard these mammals as the population growth is very slow. The recovery will take much longer if the current population is been harmed.

Going green and improving business performance

Sri Lanka ports authority has upgraded its infrastructure and super structure to accommodate larger vessels. These upgrades have resulted towards the business success as well as the improvements in environmental standards. It is known that the shipping field is continuously improving its environmental friendliness of its vessels. Since SLPA is now capable of welcoming such deep draft vessels it is noticed that instead of several old vessels the shipping lines are transporting their cargo in new larger vessels by creating shipping cartels.

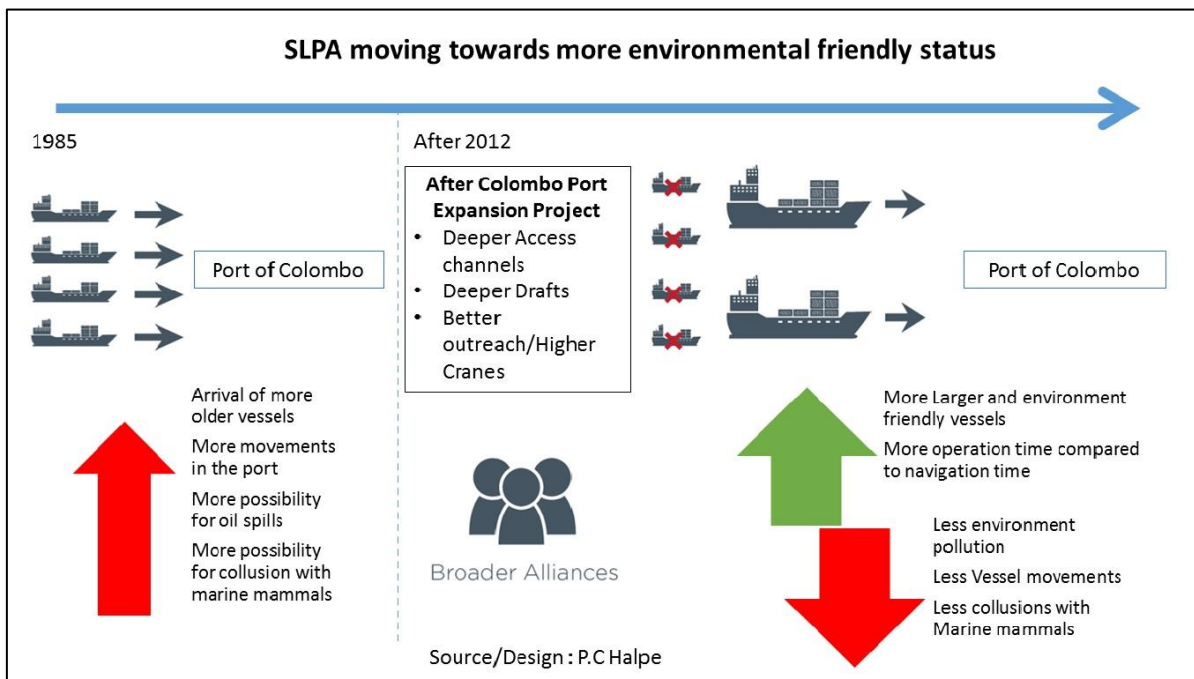


MSC NEWYORK 18,000+ TEU container ship called Port of Colombo on 19th November 2014

(Source: SLPA Media Unit)

This has resulted in,

1. Less vessel navigation time in port and more operation times
2. Less vessels movements in and out of the port
3. The port is receiving more environmental friendly vessels
4. New vessels have less possibility of oil spills



SLPA developed port of Hambanthota and promoted it as a transshipment hub for vehicle careers. This has eased the port of Colombo of handling RORO vessels and giving it more

concentration on container handling. The move made more space in Colombo port and reduced the traffic in it.

SLPA also have made it compulsory (as much as possible) the method of “double trucking” for inter terminal trucking. This means in situations if inter terminal trucking has to be done if a prime mover is send with a container to Terminal A from Terminal B the truck will return with another inter terminal container which should be transported from Terminal B to Terminal A. This result in cost savings, fuel, energy, time as well as reduce emissions due to trucking.

Today SLPA users four electrical powered gantry cranes for yard operations of empty containers while others are diesel powered RTG machines and looking forward for the possibilities of conversions towards electrical powered or hybrid technologies which is cost effective and environmental friendly. Moreover it is important to develop On-shore power supply system to provide electricity to ships to meet their power demand during port stays instead of burning fuel.

It is important to increase the awareness of the employees of SLPA of the importance of protecting the environment. Such awareness programs, safety training and attitude building programs are conducted for different levels of employees such as prime mover drivers, RTG operators, Quay gantry crane operators and navigational staff.

SLPA is introducing ISO 14001 standards to enhance environmental performance. Online payment and registration methods are used such as EDI, paper-less transaction these result in environment friendliness as well as increased efficiency, cost reductions, quick processing times and less corruption.

Finally as a conclusion is could be stated that Sri Lanka ports authority has identified the importance of having a greener environmental performance along with business achievements. The marine environment is rich of resources and the area is mostly looked towards development projects to boost economy. Making the use of it maintaining the balance between the human use and ecosystem is crucial. SLPA takes the best environmental approach to manage stakeholder awareness in green responsibilities and ensures the ports industry in Sri Lanka is ready to compete and to achieve more business success.

Bibliography

Abdulla A, Linden O, (2008) Maritime traffic effects on biodiversity in the Mediterranean Sea, Malaga: IUCN, Gland

Azwer M (2015). How Shifting Shipping Lanes May Prevent Extinction of Sri Lanka's Whales,

Battle, Jessica, (2009) Silent Invasion – The spread of marine invasive species via ships' ballast water, WWF

Coastal Zone Management Plan, Sri Lanka (CZMP) 2006

Halpern, B.S. McLeod, K.L. Rosenberg, A.A. & Crowder, L.B. (2008) Managing for Cumulative Impacts in ecosystem-based management through ocean zoning, Ocean and Coastal Management

Meer, R. (2012). Ballast water risk assessment in the North Sea, evaluating ballast water management in the North Sea area. (No. EES-2012-134T or Beta 2012-03)

Sri Lanka Port Authority - Sri Lanka Port Authority, www.slpa.lk, 2016. Web. 15 December, 2016

UNCTAD, REVIEW OF MARITIME TRANSPORT 2015, 2015