

Recycling of Maritime Vessels: Issues of Governance and Policy

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The recycling of obsolete maritime vessels namely civilian and military vessels has emerged as an important issue in ocean governance. The rate and momentum of shipbuilding have increased by leaps and bounds with the colossal growth in world economic development and the corresponding increase in global maritime trade. The number and variety of ships in the form of freighters, containers, bulk carriers, crude and natural gas carriers have increased at a phenomenal pace.

Shipbuilding as an industry has seen a huge growth in the South Korea, Japan and China with the numbers and varieties of shipping platforms on the increase. While civilian shipping fleets have increased in number, there has been a corresponding increase in the global naval fleets of newer surface and submerged platforms of various sizes, capabilities, propulsions being built.

The issues in shipbuilding have been conditioned by the following factors:

1. The demand of global trade and the varieties of platforms needed for the same.
2. Newer technologies that have dramatically rendered several existing platforms obsolescent and unviable, in fact, several of the platforms of the yesteryears have become “white elephants at sea”.
3. The increasing rate of depreciation and the exorbitant costs of maintaining the ageing platforms.
4. The erosion value of the platforms at sea and the attendant pollution and the contamination risks of the ageing platforms.

It is a fact that cycles of naval technology have been growing in complexity of technology and sophistication of hardware. The nature of technologies and the composites of materials that have been built into the maritime platforms have been

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built with the objective of technological optimality and operational efficiency. However, there has been an utter disregard in the choice of the composites of materials used in the building of the newer maritime platforms. Issues in shipbuilding and the manual breaking of ships have a host of operational and environmental issues.

Ship recycling or ship breaking could be defined as the process of dismantling an obsolete vessel's structure for scrapping or disposal. Conducted at a pier, dry dock, beach, water front or dismantling slip, it includes a wide range of activities, from removing all gear and equipment to cutting down of metal frames and resultant recycling the ship's materials. Ship breaking is a challenging process, due to the structural complexity of the ships and the many environmental, safety, and health issues involved.

It is a general belief that for safety reasons a ship must be scrapped after 20 to 25 years. On an average, some 600 ships and craft, small and big, various types and classes are decommissioned and sold as scrap. There are no fixed annual trends and the scrap market varies substantially. 1998 was a bumper year and 673 ships or 27,254,525 dwt were scrapped.¹

Till 1970s, ship breaking was done in the docks of Europe. As the people in the developed world became mindful of the health and environmental costs of ship breaking and also due to intense pressure from environmentalists, the ship owners were left with no other option but to send their vessels to the poorer countries of Asia. Asia became a popular destination for dumping scrap of all kinds of materials primarily due to cheap labor, lax environmental law and weak enforcement agencies.

Since the early 1980s, ship breaking has been increasingly moved to poor Asian nations. Bangladesh, China, India, and Pakistan are preferred destination. By 1993, half of all oceangoing ships were scrapped in China. Today, India holds the top rank in ship breaking followed by Pakistan, Bangladesh and China. The annual turnover of the industry in India is about 10,000 crore rupees.

Alang in India recycles about 50% of the decommissioned ships in the world. The yards are located on the Gulf of Khambat and ship breaking began there in

1 The Social and Labor Impact of Globalization in the Manufacture of Transport Equipment, Report for discussion at the Tripartite Meeting on the Social and Labor Impact of Globalization in the Manufacture of Transport Equipment, Geneva, 8–12 May 2000, at <http://www.ilo.org/public/english/dialogue/sector/techmeet/tmte2000/tmter6.htm>, 20 January 2006.

1983. There are 173 plots and 10 of these are exclusively for VLCCs.² Till January 2005, 4035 vessels amounting to 30.05 million metric tones had been beached. The yards at Alang have generated controversy about working conditions, workers' living conditions, and the impact on the environment. Besides, the daily wages of workers vary between Rs 60 and 100. In contrast, the labor cost in the ship breaking business in the United States could be something between \$ 40 and 45 per hour.

In Bangladesh, ship breaking is undertaken for domestic steel requirements. The ship breaking industry is not subject to any environmental laws or health and safety regulations for workers. Chittagong ship breaking yard is highly polluted and has experienced several accidents and casualties and is believed to be most unsafe in the region.³

In China, ship breaking is not undertaken on the beaches. Instead, vessels are broken up in docks with cranes and machinery.⁴ However, working conditions are similar in ship breaking yards all over Asia.

The process of recycling of ageing maritime platforms is for two purposes:

1. Reclaiming of the recoverable metal from the ships, which would be again recycled in the newer platforms after considerable treatment.
2. The commercial resale value of the recoverable materials that offers the ship breaking agencies lucrative contracts in the recovery and sale of scrap and the recoverable materials.

Recycling of maritime platform materials is a commercially lucrative business but with environmentally ultra-hazardous consequences. The following issues of concern are pertinent in the recycling of maritime platforms and ship breaking:

1. Human labor engagement in the occupationally hazardous operations that involves the direct contact or handling of decaying material composites. Quite often the manual labor engaged in the ship breaking operations have thinly clad clothing with virtually no protective gear as they engage in the tasks of demolition.

2. Ship breaking operations are considered to be environmentally polluting, devastating for the manual laborers who are exposed to the deadly toxic composites and the contamination of the radioactive materials that are unpacked from the disintegrating platforms.

2 For more details, see ship breaking at <http://www.greenpeaceweb.org/shipbreak/whatis.asp>, 20 January 2006.

3 See <http://www.greenpeaceweb.org/shipbreak/whatis.asp>, 20 January 2006.

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3. The health standards and the medical care for the manual laborers are absolutely nonexistent. Examined as an issue of health safety and from the view of human rights of the workers, the ship breaking yards are the “killing fields of the maritime industry” that has the utter disregard of human life and suffering.

4. The industrialized world are the worst culprits in this process since shipbuilding is their premium industry while ship breaking that has utterly disastrous consequences are removed from their territories since it is detrimental to their work force and damaging to their environment.

5. The lack of transparency in regard to the nature and amount of toxic substances aboard the ageing platforms that are being contracted for breaking is yet another serious issue of concern. Quite often as in the case of the French aircraft carrier *FNS Clemenceau*, the State authorities do not adopt transparent standards to reveal the real potential of the toxic levels of the composite materials on board the ship that is to be dismantled.

6. The lack of transparency has serious detrimental issues of safety on the human work force engaged in the demolition assignment and the environment pollution that is the consequence of the demolition process that unleashes a slew of the toxic brew the ships hold.

The level of hazardous activity has a pertinent impact on the human workforce and could result from the nature and level of toxic chemicals that are removed during the ship breaking process:

1. Asbestos, a deadly toxic chemical that are used as insulation composite is in hanger liners, mastic under insulation, cloth over insulation, cable, lagging and insulation on pipes and hull, adhesive, gaskets on piping connections, and valve packing.

2. Polychlorinated biphenyls (PCBs) that are in substantial quantities in rubber products such as hoses, plastic foam insulation cables.

3. Silver paint, habitability paint, felt under septum plates, plates on top of the hull bottom and primary paint on hull steel.

4. Lead – from lead and chromate paint, lead ballast, batteries, generators, and motor components.

5. Hazardous material and chemicals-including heavy metals in ship transducers, ballast, and paint coatings; mercury in fluorescent light tubes, thermometers, electrical switches, light fittings, fire detectors, and tank level indicators.

6. Chlorofluorocarbons (CFCs) in self-contained refrigeration devices such as

water coolers and small freezer units.

7. Excess noise associated with grinding, hammering, metal cutting, and other activities.

8. Fire from ignited insulation, matting, lagging, and residual fuel; and from lubricants and other flammable liquids.

While shipbuilding is the most commercially lucrative industry of the First World, ship breaking is the disastrous human activity with debilitating environmental repercussions for the Third World. The industry is reflective of the deeply flawed perspective of the First World in matters concerning safety and security of the Third World. Motivated by lucrative profits, unmindful of the humanitarian disaster and the environmental corrosion, the Third World States like Bangladesh, Pakistan and India are sacrificing on the altar of expediency the human costs and environmental costs of their respective countries for ill gains in commercial value.

Basel Convention

The industrialized nations have long been looking for cheaper ways to get rid of their industrial wastes. These toxic traders were shipping hazardous waste to developing countries and after this activity was discovered, an international anger led to the drafting and adoption of the Basel Convention.⁵ During its first decade (1989—1999), the Convention aimed to set up a framework for controlling the “trans boundary” movements of hazardous wastes. In January 2002, the Basel Parties for the first time debated on the legal issues of old ships. They agreed in general that the Basel Convention should also be applicable to ships scrapped since they contain hazardous materials like asbestos and PCBs. The Basel Parties also adopted guiding principles for environmentally sound management of dismantling of ships. The guidelines are advisory in nature and are meant to improve the environmental performance of facilities involved in the breaking of ships.

In April 2004, a Turkish judge declared that the import of ships for scrap containing asbestos or other dangerous materials onboard was illegal.⁶ Judges in India, Belgium and the Netherlands followed suite and ruled in similar ways. But

5 For more details on Basel Convention, at <http://www.basel.int/about.html>, 5 January 2006.

6 Basel Convention and Shipbreaking, at http://www.greenpeaceweb.org/shipbrea/basel_convention_shipb.asp, 20 January 2006.

October 2004 was historic and the Basel Convention decided that ships could be considered toxic waste under international law and at the end of their life they cannot leave a country without permission of the importing State. The Convention also placed conditions on the 163 signatories to the treaty that they must assure that ship breaking is performed in an environmentally sound manner and minimizes the trans boundary movement of hazardous wastes onboard the ships.

The Case of *FNS Clemenceau*

The 50 year old decommissioned French aircraft carrier *FNS Clemenceau*, named after Georges Clemenceau (1841–1929), carrying 27,000 tones steels scrap, some 500 tones hazardous and toxic materials including asbestos had long been in search of a scrap yard where its steel could be recycled. It was denied entry by several European countries and was rejected by Turkey and Greece, who cited a series of chemical hazards such as PCBs (polychlorinated biphenyls), TBT (tributyltin), asbestos, and the possibility of radioactive waste on board.

The French authorities had planned to decontaminate the ship in Spain, but for mysterious reasons the ship never reached Spain. The French also tried to sell the ship to China, which also refused its entry. Finally, *Clemenceau* stayed left high and dry in the Mediterranean, as no country was willing to take it for scrapping.

It then found customer in India and the ship was to be scrapped by the Indian company AG Enterprises Ltd. – Shree Ram Vessels Scrap Ltd., in Alang, Gujarat. The ship left France on December 31, 2005, while Greenpeace and local NGOs attempted to stop the vessel through protests.

The Supreme Court of India on January 16, 2006 denied entry to *FNS Clemenceau* in India's territorial waters until February 13, 2006 pending a decision whether the ship is to be allowed in the country for breaking.⁷ Meanwhile, the owners of the French warship gave an undertaking before the Supreme Court that they will not bring the vessel in the exclusive economic zone of India.

The Supreme Court-appointed Committee on hazardous waste management had earlier submitted its report recommending that *Clemenceau*, which is carrying asbestos, should not be allowed to enter India. G. Thyagrajan, Chairperson, Supreme Court Monitoring Committee on Hazardous Wastes Management noted:

7 French Toxic Ship Not to Enter India Till Feb. 13, *Hindustan Times*, 16 January 2006.

*We cannot allow the last rites of dead ships here but we have an open mind and have asked the French Government to provide us more details and documents.*⁸

Also the Supreme Court of India in its October 14, 2003 order refers to the issue of Ship Breaking saying,

*We accept the following recommendations of HPC (Report of the High Powered Committee on Management of Hazardous Wastes): "Before a ship arrives at port, it should have proper consent from the concerned authority or the State Maritime Board, stating that it does not contain any hazardous waste or radioactive substances... The ship should be properly decontaminated by the ship owner prior to the breaking."*⁹

Interestingly, on December 20, 2004, three civil society organizations of France (Ban Asbestos France (Bannir l'Amiante) and Syndicat CGT de la DCN de Toulon) began raising public opinion against the sale of the vessel for final scrapping in India.¹⁰ In an open letter to the French government, the three organizations highlighted (a) the irregular conditions of a partial asbestos removal done on the former aircraft carrier, *Clemenceau* and (b) the export to India of the ship with 22 tons of asbestos waste on board without any consideration for the health.

Also, officials from Technopure, the company contracted by the French Government to decontaminating the ship before it was dispatched to India, became public to confirm that the *Clemenceau* contains as much as 500 tonnes of asbestos much more than the French Government has admitted to.¹¹ Reportedly, the company disclosed the information on "moral grounds, despite the confidentiality clause they were bound to".

8 Vaiju Naravane, Greenpeace Activists Meet French Officials, *The Hindu*, 21 January 2006.

9 Supreme Court Monitoring Committee on Hazardous Wastes Final Report on *Clemenceau*, at http://www.scmc.info/special_issues/final_report_to_clemenceau_3.html, 20 January 2006.

10 Asbestos Laden Ship Steering for Indian Shore, *The Indus Telegraph*, 17 January 2006.

11 France Dumps *Clemenceau* on India in Deliberate Violation of International Law: Greenpeace, at <http://www.greenpeace.org/india/press/release/france-dumps-clemenceau-on-ind>, 10 January 2006.

On February 16, 2006, French President Jacques Chirac, prior to visiting Delhi on a State visit, recalled the ship back to France. Jacques Chirac announcement came after France's highest administrative court ordered the ship's transfer to be called off in response to legal action by Greenpeace and three anti-asbestos groups.¹²

Concluding Remarks

The damages and the ill consequences of the ship breaking industry are devastating not only by the level and slew of toxic environmental exposure and the hazardous work activities but more so by the poor state of working conditions and the utter disregard by the entrepreneurs of the working conditions of the workers. It would be pertinent to point that the industry of ship breaking is relegated to be a Third World industry as it carries all the actual and devastating consequences of injury, disability and chronic sickness for the human force engaged in the task. It poses the most disastrous and permanent corrosion on the regional environment.

Regulations aimed at solving toxic dumping problems are easily circumvented and developed States continue to violate international laws with impunity. In this connection, the *Clemenceau* is symbolic of the global issue of developed countries dumping toxic waste in developing countries. Developed countries must not be allowed to think that their responsibilities end when these hazardous wastes leave their shores.

12 India Hails Recall of Toxic Ship, at <http://english.aljazeera.net/NR/exeres/12FF9E01-416F-4654-8CA1-F0A0D78CA4AA.htm>, 20 February 2006.