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Five Facts About Sustainable Ship Recycling

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Despite recycling a majority of tonnage annually, South Asian countries have been repeatedly questioned about the environmental viability of such activity. This is despite the fact that almost everything on an end-of-life and the ship itself is recycled and reused, which adds to the sustainability of our natural resources.

Below, five facts are shared which exemplify the meaningful contribution of the ship recycling industry towards the environment and the society.

1. Boost to Local Economy

The ship recycling industry in South Asia is associated with a huge downstream market for second-hand goods such as furniture, machinery, joinery, electrical equipment, household appliances, home décor, paints, hardware items, etc. This supports the concept of industrial ecology or industrial symbiosis as the outputs from ship recycling yards are utilized as inputs to small-scale industries working to refurbish items which are eventually traded in the second-hand market.

All this is in addition to the steel re-rolling mills and steel melting mills which utilize ferrous scrap from end-of-life ships to produce steel goods such as bars, ingots, pipes, plates, etc. The entire localized industry developed due to ship recycling yards is a major boost to the local economy, as it assists in flourishing of trade of second-hand goods, ferrous scrap and non-ferrous scrap. At the same time, a large number of jobs are also created.

2. Creation of Jobs

The nexus of ship recycling yards, refurbishing shops, re-rolling mills, steel mills and second-hand shops creates a localized industry which employs hundreds of thousands of people from marginalized segments of the society. These jobs include both semi-skilled and unskilled workforce working at ship recycling yards dismantling and cutting end-of-life ships and at other downstream industries discussed above. According to the World Bank estimates, "the work force in each country varies with the volume of ship breaking but may range from 8,000–22,000 workers in the ship recycling yards to 200,000 in the supply chain, shops, and re-rolling mills."

3. Recovery of Metal Scrap

The metal scrap obtained from end-of-life ships includes both the ferrous scrap and non-ferrous scrap. The ferrous scrap is generally classified in two ways – re-rollable scrap and melting scrap. In South Asian ship recycling yards, about 60 percent of the total weight of the ship's steel is obtained in the form of re-rollable scrap. This comprises of plates, beams, girders and angle bars.

The re-rollable scrap is sold at a premium compared to the remaining 40 percent which is comprised of the irregular pieces of steel earmarked as melting scrap. The re-rollable products are generally used in the construction industry of these countries whereas the melting scrap is used to form finished steel products in a foundry.

In South Asia, the recovery of re-rollable and melting scrap steel by the ship recycling industry and its eventual supply for the iron and steel industries is critical because more than half of Bangladesh's steel supply is fulfilled via this route. Similarly, for Pakistan and to some extent to India as well, the importance of the ship recycling industry for supplying scrap to the iron and steel industry is immense.

For example, in 2011 about 688,000 tons and 2.7 million tons of ferrous scrap was supplied by the ship recycling industry to the steel making industry in Pakistan and India, respectively. On a global basis, since 2011, every year at least seven million tons of metal scrap is produced by the ship recycling industry. This figure touched the 11 million ton mark in the year 2012 when a record number of ships were dismantled globally.

4. Reduced Greenhouse Gas (GHG) Emissions

The positive effect of using scrap metal to produce finished products instead of using metal ore is seen in terms of reduced GHG emissions. The emissions reduction is due to the reduced energy consumption by up to 70 percent in steel making using scrap steel as compared to using iron ore. Moreover, the need for metal mining is also diminished, which adds to the reduction of the GHG emissions.

This is an important contribution of the ship recycling industry towards sustainability because the world needs to find ways to decarbonize the atmosphere in the wake of the issues such as global warming, depletion of the ozone layer and climate change.

5. Reduced Pollution

The recycling of steel scrap obtained from end-of-life ships also helps reduce air and water pollution. At the same time, it helps reduce water consumption. These reductions are due to fact that fewer resources are required to manufacture products from metal scrap as compared to metal ore. Scientifically published estimates suggest 86 percent less air pollution, 76 percent less water pollution, 40 percent reduction in water usage while making steel from scrap than from iron-ore.

The above aspects of the global ship recycling industry corroborate the fact that generally the industry is beneficial for the environment and the society. However, doubts have been raised by some on the

manner in which ships are dismantled on some yards in the Indian sub-continent. The way ships are dismantled can definitely have consequences on environment and health and safety of the workers. Therefore, the need to improve the substandard facilities cannot be refuted.

At the same time, labeling yards HSE friendly or not on the basis of their geographical area cannot be justified: especially when almost half of the active yards in India have voluntarily upgraded their facilities to obtain the statements of compliance with the Hong Kong Convention from IACS member classification societies.

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