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Clean and Green Alang

PB Jayakumar May 12, 2021

The sleepy coastal village of Alang, about 50 kilometres from Bhavnagar in Gujarat, also known as the largest ship-recycling hub in the world, had a bad reputation until a decade ago. Reports highlighted horror stories about its poor infrastructure, environmental pollution from hazardous waste such as asbestos, engine oil tainting sandy shores and the Arabian Sea, accidents and death of unskilled labourers, etc. But Alang now has a new reputation - it is the greenest and safest ship-breaking hub, dismantling 30-35 per cent of ships recycled a year, globally.

The near-four-decade-old Alang of today is the result of concerted efforts - court interventions, government initiatives and above all, committed efforts of ship breakers to upgrade to international standards to win business.

How It Was Earlier

Alang-Sosiya Ship Recycling Yard was developed by the Gujarat Maritime Board (GMB) in 1982, on the shores of a 12-kilometre long stretch. The area was suitable for the "beaching method" of ship breaking (ships hauled to shores during high tide and then scrapped). During high tides, water level rises up to 33 feet (normal high tides in Indian coasts are only up to 14-15 feet), which makes it easier to haul ships to the shore. The first vessel, MV Kota Tenjong, was beached at Alang in February 1983, and by early 90s, over 100 ships were scrapped in a year. By 2000-2005, Alang was regularly scrapping over 300 ships a year. Soon, many scrap merchants became ship recyclers and their reluctance to invest and lack of knowledge regarding international ship-breaking methods and standards became an issue.

During 2000-2005, around 15-20 accidental deaths happened every year, drawing media attention. Environment protection groups, including Greenpeace, campaigned against dumping of toxic materials like asbestos, radiation-causing toxic waste, polyurethane (a plastic material that exists in various forms and used in applications such as insulation of refrigerators and freezers) and used furnace oil polluting beaches. The Supreme Court started monitoring and directed a high-power committee to study all aspects of ship recycling. The apex court guidelines on sustainable ship recycling suggested detailed procedures to be followed during import of obsolete ships. These included consent from the maritime board after inspecting for hazardous waste and radioactive substances, decontamination of ships before hauling to breaking yards and submitting a complete inventory of hazardous and non-hazardous waste on board. The court also directed the GMB and the state pollution control board to strictly comply with the "Prevention of Fire and Accidents for Safety and Welfare of Workers and Protection of Environment during Ship-breaking Activities Regulations 2000".

The Supreme Court banned import of hazardous and toxic waste identified under the BASEL Convention, which inspired the International Maritime Organisation to come up with global standards for ship recycling - The Hong Kong International Convention for Safe and Environmentally Sound Recycling of Ships, 2009. India ratified the Hong Kong International Convention only in November 2019, but most ship-breakers and the Alang industry had voluntarily complied with the norms by then.

"Today, out of the 120 operational yards here, 92 have complied with Hong Kong (Statement of Compliance) certifications, including multiple ISO certifications from global agencies like Class NK, IR Class, Llyod's Register, Bureau Veritas and RINA," says Komalkant Sharma, CMD, Leela Group of Companies, and one of the largest ship-breakers at Alang. Another 10 yards are in the process of getting the Hong Kong (Statement of Compliance) certifications (HKC) and the remaining are expected to comply by 2022/23.

That is significant considering the fact that only one yard at Chittagong in Bangladesh and no yard at Gadani in Pakistan comply with the Hong Kong regulations. These three Asian yards account for over 75-80 per cent of the 800-1,000 end-of-life ships recycled annually in the world. Alang has the capacity to process 450 ships a year and re-rollable steel capacity of 4.5 million tonne per annum, with a potential turnover of over Rs 6,000-7,000 crore a year. Alang can beach even ships of over 50,000 light displacement tonnage (LDT), but mostly scraps small-and-medium-sized ships of 10,000 LDT. LDT is the weight of the ship, excluding cargo, fuel, water, stores, passengers, crew, but with water in boilers to steaming level.

The Change

"We were the first to initiate SHE (Safety, Health and Environment) practices at Alang and the first to go for international standards green certification of the yards in 2010," says Sharma of Leela, which has four yards of which three are HKC compliant certified by Class NK and ISO certified by the American Bureau of Shipping (ABS), Lloyds Register (LR) and Bureau Veritas (BV).

In last decade, ship-breakers made massive investments into upgrading their recycling facilities and safety infrastructure, starting with small, yet essential items such as routine use of safety gears, masks, gloves, hard hats and boots, to significant improvements, including 100 per cent impervious floors with drainage systems, heavy lift cranes, and vessel-specific training for workers.

"It requires Rs 3.5-7 crore per yard to set up such facilities depending on the size of the yard and a range of heavy lift cranes with higher working load of capacity up to 300 MT to easily and safely lift the blocks from vessels. Yards are concretised with eight-layered impermeable flooring and are reinforced with one-inch thick steel to ensure complete protection from seepage into the land below," says Vishaal Raj Soni, Director, Ship Recycling Division, Leela Worldwide. Periodically, international agencies audit the yards to ensure compliance. Now, over 20 ship-recycling yards have filed applications with the European Commission for audit of their facilities for inclusion in the EU's list of approved ship-recycling yards.

The GMB controls the ship-recycling process at Alang and runs different training programmes for yard workers before they begin to work. All have to undergo 12 days of

compulsory safety training, to get an idea about the jobs done at recycling yards, identification of hazards in gas-cutting operations, usage of personal protective equipment, hazards related to locations such as working in confined space, working at height, working in engine room, presence of hazardous atmosphere, etc. For those at work, free refresher safety training is given for three days and a two-day specialised training is provided to workers who deal with gas-cutters.

According to official sources, 63 deaths were reported in Alang during 2014-2019, roughly 10.5 deaths per annum. Each of the yards employs 150-200 people. Alang employs over 100,000 people in yards and downstream ship recycling-related jobs.

According to the GMB, Alang employs over 100,000 people in ancillary jobs such as scrap dealers, steel re-rollers, logistics suppliers and buyers of second-hand electrical items, furnitures and computers. If deaths of up to 19 people a year were common between 2009 and 2018, since 2019 only three fatalities happened, according to sources in Alang. Going green is also going to benefit business. "At least 15 of the world's leading ship owners have committed to recycle their ships only at green yards and that is going to be a big business boost for Alang," says Anand Hiremath, Lead Coordinator, Sustainable Ship and Offshore Recycling Program and Head, R&D, Global Marketing Systems (GMS), which claims to be the world's largest buyer of ships and offshore units for recycling.

Over the years, the GMB and the Ship Recycling Industries Association have stressed on creating infrastructure. In the first phase of a labour colony under development, over 1,000 labourers are housed in good-living conditions. Several recycling yard owners have constructed labour colonies for their own workers, which accommodate nearly 800 employees. Now, Alang has three hospitals. The GMB also runs a Safety Training and Labour Welfare Institute since 2003 and offers common infrastructure for water and power and a hazardous waste management and disposal facility, run by a third-party professional expert agency. A \$76-million loan from the Japan International Cooperation Agency is under works and will be used to upgrade 70 recycling yards.

Now, only 0.10-0.20 per cent of a dismantled ship accounts for hazardous waste. Asbestos was the main pollution-causing agent in ship recycling, but since 2011, it is not used in ship building any more. "Going forward, over 25-year-old ships will become rare and Alang will not be processing such ships," says Hiremath of GMS. Bilge water, garbage, glasswool, puff, plastics, etc., are some of the other wastages. Unlike in the western ship-breaking yards where everything goes as scrap, Alang helps to reuse almost 80 per cent of a ship, from furniture, chairs and kitchen cabinets to electrical motors, thereby reducing the global carbon footprint. With Alang being able to attract big business, the government is also planning to double capacity of Alang by 2024. "About 90 per cent of a ship is steel and the ship-recycling yards in Alang produce about 4.5 MT of re-rollable steel per year, without exploiting any natural resources," notes Soni of Leela Worldwide.

The Indian ship-breaking industry is sailing towards a 10 per cent revenue growth in FY22 owing to improved availability of condemned vessels and higher rates for steel scrap, according to a recent CRISIL report. Indian ship-breakers are set to procure between 230 and 240 vessels, with a combined weight of over 1.9 million LDT this fiscal, compared to 214 vessels weighing 1.77 million LDT bought last fiscal, the report says. Already in the first two months of this year, Alang has processed over 36 ships.

A clean and green Alang will contribute to businesses of ship recyclers.