



BEHIND THE HYPOCRISY OF BETTER BEACHES

Shipbreaking in India,
ship owners in Switzerland
lobbying in Belgium.

WHO IS BEHIND?

Authors

Ebe Daems and Gie Goris, Editor in Chief, MO* Magazine - www.mo.be

Research partner

Nicola Mulinaris, NGO Shipbreaking Platform - www.shipbreakingplatform.org

Editor

Linda A. Thompson, Freelance writer and editor - www.lindaathompson.org

With the financial support of Public Eye - www.publiceye.ch

Special thanks to photographers and graphic designers Isacco Chiaf, Tomaso Clavarino, Amit Dave, Luca & Reinhard Fasching, Giulia Morandini, Pradeep Shukla.

Cover photo: © Tomaso Clavarino

INTRODUCTION

Today, over 90% of the goods that we consume are transported by sea. Shipping is the heart and pace-setter of globalisation. But what happens to ships when they're no longer fit to be used? The practice of dismantling them in industrial countries was ended a long time ago. Nowadays, hundreds of these "monsters of the sea", full of toxic substances, are dismantled on the shores of Bangladesh, India and Pakistan every year by workers who take them apart with little more than their bare hands. The workers, often migrants, slave away in extreme conditions. Fatal accidents frequently occur. Toxic fumes and materials such as asbestos and lead cause workers to develop serious diseases. The social and environmental damage is huge. Whilst there are undoubtedly safer and cleaner ways to dismantle vessels, shipping companies choose to burden developing countries with the human, health and environmental costs of disposing of their vessels as that is where they can obtain the highest profits. The market for old ships is also notoriously opaque and stakeholders have a habit of circumventing the applicable legal rules. From sailing under the flags of countries with low taxes and lax law enforcement, and registering their companies in tax havens, to cooperating with dubious middle men, the companies use an arsenal of tricks to duck their responsibilities and to avoid getting into legal problems. Switzerland is one of the countries that contributes to the flow of toxic ships to the Global South. Even though it is a landlocked country, multiple large shipping companies are headquartered in Switzerland. The Flemish global news outlet MO* Magazine and the NGO Shipbreaking Platform joined forces to get to the bottom of the Swiss paradox, shed light on a murky industry and give voice to the victims of the toxic colonialism that is unregulated ship scrapping. The articles in this report are written by the MO* team, as independent journalists. 2018 marked 50 years of Public Eye's efforts to combat global injustices that originate in Switzerland. To celebrate this anniversary, the organisation sponsored unprecedented investigations into dubious practices of Swiss companies in developing countries. This project was one of two that received the Public Eye Investigation Award.

CONTENTS

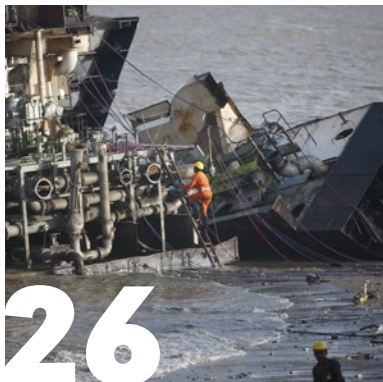
WHO IS BEHIND	2
INTRODUCTION	3
<hr/>	
1 FIRST CHAPTER Switzerland by the sea	6
2 SECOND CHAPTER “Every day on the shipbreaking yard can be your last”	14
3 THIRD CHAPTER Mendeleev beaches: shipbreaking and the spilling of copper, cobalt, manganese, lead, cadmium, nickel, zinc and mercury	25
4 FOURTH CHAPTER “As long as the world allows shipping companies to choose the rules they want to abide by, regulation is all but impossible”	31
5 FIFTH CHAPTER Why beaching is so hard for companies to resist	34
6 SIXTH CHAPTER All eyes on Europe	41
7 SEVENTH CHAPTER A small nation makes a big lobbying push	48
<hr/>	
GLOSSARY	54
A BRIEF OVERVIEW OF SHIP RECYCLING LEGISLATION	57



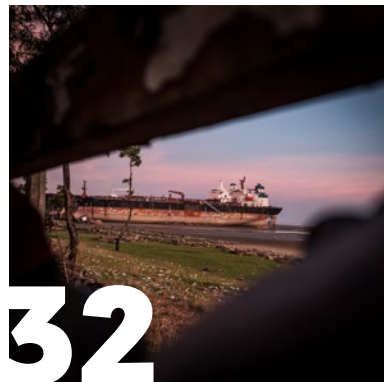
11



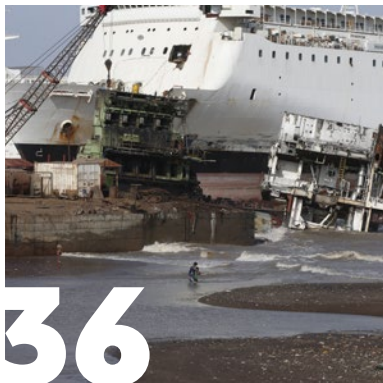
15



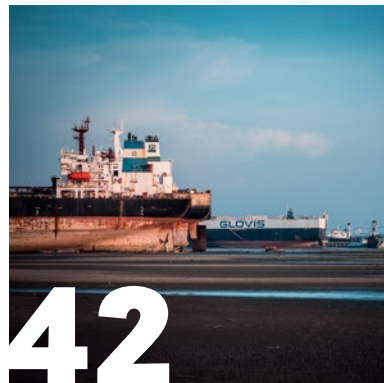
26



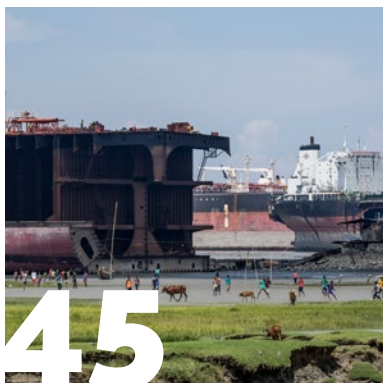
32



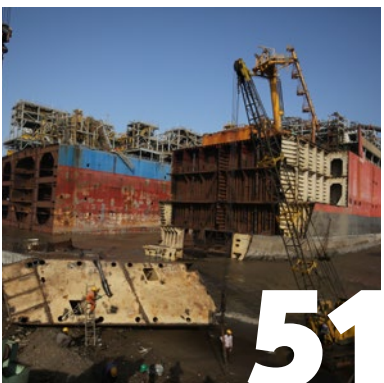
36



42



45



51

Switzerland by the sea

Written by **Gie Goris**

The scientist James Hansen was once asked: “If climate change continues at this pace, is anywhere going to be safe?”

His answer: “Switzerland would be a good guess.” Because places like Geneva, Lausanne and Zürich will not be affected by rising sea levels while port cities like Antwerp, Rotterdam and Genoa of course will. Then again, these Swiss locations also aren’t the main entryways into Europe. No shipping, no maritime glory, right?

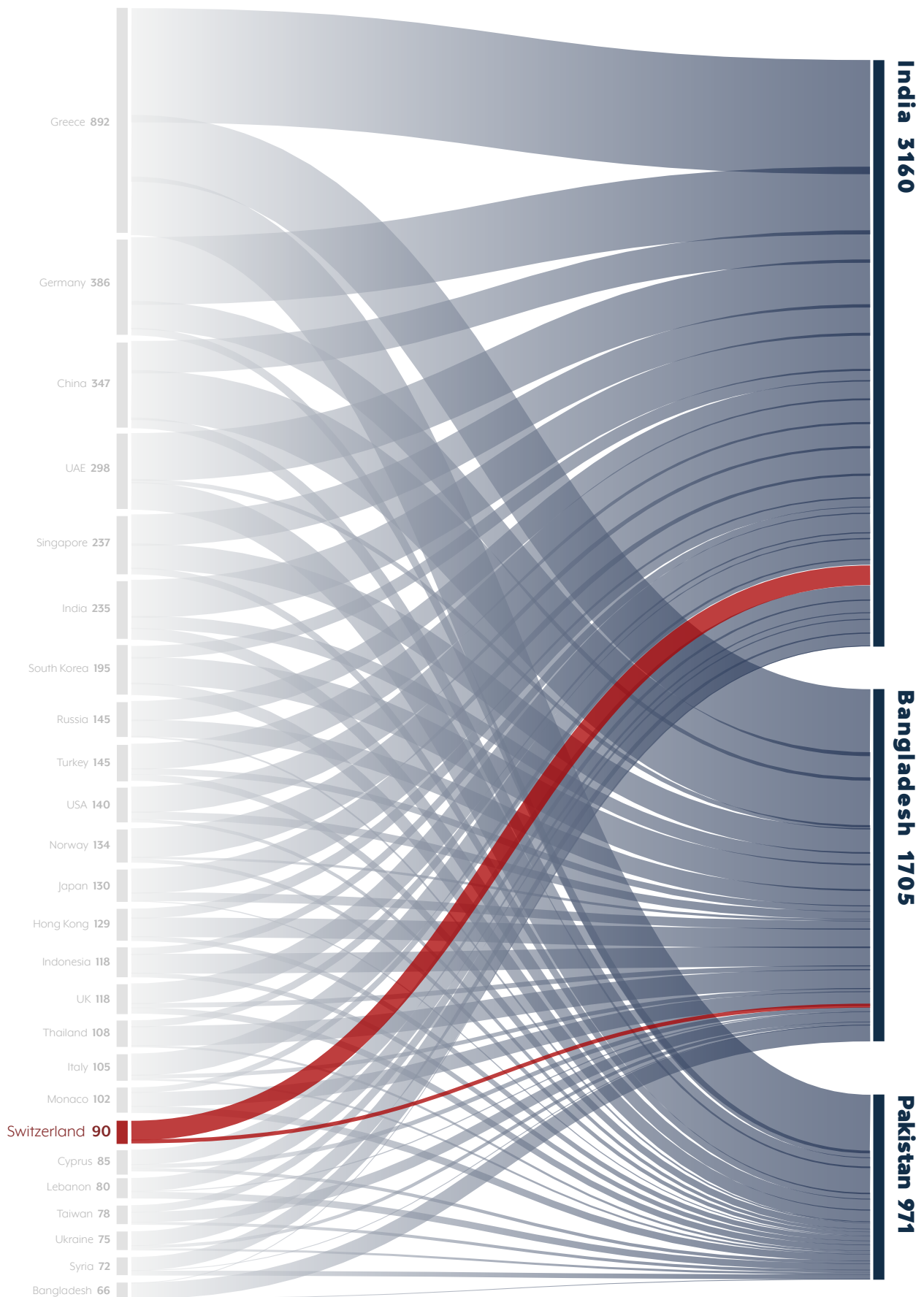
Wrong. Switzerland hasn’t needed a sea to become a shipping nation. Atlanship S.A., Doris Maritime Services S.A., FleetPro Passenger Ship Management AG, Lumar S.A., MSC Mediterranean Shipping Co, Sallaum Group SA, Shipfin S.A., Sider Navi S.p.A., Taunus Shipping

SA – their names may be unfamiliar to most Swiss, but these home-grown companies play in the shipping industry’s big league.

In addition to being Swiss-incorporated entities that ship goods and people across the globe, these companies share another key characteristic – they have all exported end-of-life cargo ships to be recycled and broken into smaller parts on South Asian beaches. As a matter of fact, at least 92 Swiss-owned ships have been scrapped worldwide between 2009 and now. Ninety of these vessels ended up on beaches in Bangladesh, India and Pakistan.

According to the UN Conference for Trade and Development (UNCTAD), Switzerland ranks 20th in the world in terms of the number of

TOP GLOBAL DUMPERS - Number of ships scrapped on beaches since 2009 by country of ownership



Infographic designed by Maarten Lambrechts

ships owned. However, the Brussels-based international NGO Shipbreaking Platform reports that in terms of the number of ships scrapped on South Asian beaches Switzerland rises in ranking. Almost all Swiss ships end up in such conditions making Switzerland one of the biggest polluters in terms of the irresponsible management of its old ships.

Out of the 90 Swiss-owned vessels scrapped on South Asian beaches in the last nine years, 80 belonged to the second-biggest container shipping company in the world – Mediterranean Shipping Co, or MSC. Le Monde puts the annual turnover of the family-owned Swiss company at €27 billion. According to figures cited in a presentation given by MSC chief sustainability officer Dirk Vande Velde to UNCTAD, the company has 450 offices in more than 150 countries, and 465 vessels that ply over 200 routes and serve more than 315 ports of call. Vande Velde put the number of staff at 24,000 but many other documents, including the company's own 2017 sustainability report, cite a far higher number of 70,000 employees.

MSC's ambitions as a company go beyond just turning a profit. In 2009, CEO and co-founder Gianluigi Aponte, an Italian national, received the Neapolitan Excellence of the World Award from then Prime Minister Silvio Berlusconi. Four years later, he received the Cavaliere del Lavoro (Knight of Labour) honorary title from President of the Republic Giorgio Napolitano. To be considered for the title, candidates must have an impeccable record of civil and social accomplishments, and have abided by all tax laws while paying special attention to the protection of workers.

MSC was also nominated for Lloyds Loading List' Shipping Line of the Year for the sixth time in 11 years in 2007. And in October 2018, MSC won the Greenest Ship Owner of the Year award at the annual Green Shipping Summit

in Amsterdam. "MSC was commended for its efforts to promote the sustainable use of marine resources and investments in green technologies," the company writes on its website.

How can a shipping company that aims "to become the most sustainable, technologically-advanced and customer focused shipping line in the industry," to use Vande Velde's words, at the same time continue to send its decommissioned vessels to beaches? I contacted MSC two weeks after it was honoured with the Greenest Ship Owner award to better understand this paradox. I wrote them that I wished "to speak to the person responsible for the end-of-life cycle of the vessels used and owned by MSC [...] We would like to get the correct facts and numbers about ships sent off for breaking/recycling and understand the decision processes or criteria used by MSC."

The response that came back from the company's global communications senior specialist was brief and empty. "Thank you for your interest in MSC's environmental strategy. As of today we decline to take part in your research." I was subsequently directed to MSC's sustainability policies and reporting in which, the email said, "MSC discloses a variety of information about our activities and initiatives to promote responsible environmental practices."

But those documents didn't contain the information I was looking for. So I wrote back and told them that "the only reference I find to ship recycling is the paragraph stating 'Our ship recycling practice is another important area of emphasis for MSC, as it is strictly related to labour standards, environmental protection and human rights [...] Only recycling yards with IMO HKC standards, ISO 14001 (environment), ISO 30001 (ship recycling management) and OSHAS 18001 (Health & Safety) standards are

selected for recycling at the end of the useful life of a ship.” It is remarkable that MSC refers to ISO 30001 as one of the conditions to work with shipbreaking yards – since the standard is simply inexistent. Or maybe it is symptomatic for the whole sustainability of its shipbreaking practice: roaring declarations, no delivery?

I asked the communications specialist whether she could “confirm that MSC has (by its own inspection or otherwise) confirmed that all these requirements are fulfilled for the yards in Alang, used by MSC this year and last year? (As far as I could find, these are the yards concerned: Jawandamal Dhannamal, Madhav Steel, Ghasiram Gokulchand Ship Breaking, Honey Ship Breaking (RKB), Prakesh Re-Rolling Pvt Ltd, Shree Ram Steel and Rolling Industry, Panchvati Ship Breakers). Does MSC visit these yards (regularly) to verify their compliance with the company’s high standards of sustainability, or do you rely on certification (only)?”

For a company that prides itself on its corporate social responsibility, the response I received was disappointing. “Dear Mr. Goris, I hereby confirm that we are not able to satisfy your request. On this occasion we decline the opportunity.” I decided I should give the company one more chance to respond. Aponte, the company’s CEO, had after all been very clear on MSC’s environmental obligations, when he stated: “We recognise the world’s oceans are precious and must be protected from pollution. That is why MSC is committed to the development of positive ethical and environmental change within our company.”

So I resent my questions and repeated my request “to talk to a relevant person from MSC, in order to provide me with the opportunity to double-check some of my findings or statements others have given. I consider that standard good journalism, as I would hope your company understands that communication

starts with reports but cannot be complete without follow-up research or discussion.” But the line went dead.

A THREAT TO COASTAL ECOSYSTEMS

The issues to discuss with MSC are many. Already in 2003, Greenpeace singled out MSC for its poor end-of-life fleet management. According to the environmental NGO, MSC scrapped 21 ships between 1999 and 2003 in India, usually without properly decontaminating the vessels before sending them off – as is required under the 1992 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. This treaty seeks to regulate and reduce the transnational movement of hazardous wastes, from developed to developing countries in particular.

The later 1995 Basel Ban Amendment, which has not yet entered into force at international level but has been incorporated into EU law, completely prohibits the export of hazardous waste from Annex VII countries, that is, OECD countries, to developing countries. End-of-life ships that contain hazardous materials such as asbestos, heavy metals, PCBs or residue oils fall within the scope of the Basel Convention. When a ship owner intends to sell a ship that contains hazardous materials for recycling, which is almost always the case, that ship becomes waste under international environmental law.

The responsibility for enforcement of the Basel Convention is placed with the exporting state, the transit state and the importing state. The port state from where a ship destined for breaking departs is considered the exporting state, irrespective of the ship’s flag and owner. Ship owners routinely circumvent the Basel Convention by not disclosing their intention to dispose of a ship to port authorities.

As a consequence, port states are seldom able to enforce the Basel Convention, and ship owners who illegally export vessels to substandard breaking yards have for the most part done so without legal consequences. The EU Waste Shipment Regulation (WSR), which is a transposition of the Basel Convention and Ban Amendment into EU law, hasn't yielded many successes either. EU member states have succeeded in halting the illegal traffic of hazardous end-of-life ships in just a few cases.

In 2015, 32 multinational companies issued a joint statement promising to embrace clean and safe ship recycling standards. There have been rumours that one or more of these multinationals ended their business relationship with MSC over the company's shipbreaking practices following the release of this statement. None of the companies I contacted would confirm this on the record; nor did MSC respond to our queries about this.

Adding to MSC's woes is a French political crisis involving Alexis Kohler, a nephew of Aponte's wife. Kohler had to step down as the secretary-general of the Elysée palace after the local anti-corruption group Anticor filed a complaint against him and the Mediapart website published detailed coverage of an alleged conflict of interest. As a representative of the French state, Kohler served on the governing board of the St. Nazaire shipbuilding site while MSC was negotiating a monster order for four mega cruise ships, worth €4 billion and representing 37 million hours of labour.

The Mediapart news reports also alleged he played an active role in securing a contract between the port of Le Havre and MSC while he was in public office. Kohler briefly left his senior administration position to join MSC in Geneva as the company's financial director in the summer of 2016, only to return to Paris a few months later and assume his role as President Emmanuel

Macron's right-hand man as the chief of staff. That is, until Kohler was forced to step aside after Anticor filed its complaint and Mediapart published its stories. The anti-corruption case is pending before the French courts.

RISKY BUSINESS

MSC has also played a central role in a number of controversial shipbreaking cases. On 4 August 2009, the MSC Jessica caught fire while it was being disassembled on a beach in Alang, India, resulting in the deaths of six workers. The MSC Jessica was built by Swan Hunter in the UK in 1980 and had been flying the Panamanian flag since 2001, also the year it acquired its current name. The ship had been in the ownership of MSC since 1986 and was beached on 6 June 2009. The fire appears to have broken out in the engine room where six workers were cutting ship parts using torches. The Gujarat Maritime Board later stated that it would conduct an inquiry into the cause of the accident, but its results have not been made public.

At the time of the accident, the MSC Jessica was under a bareboat charter to MSC, but Perigynia Holdings Inc., a Panamanian holding company, had been listed as the registered owner since 5 February 2001. The contact address for the registered owner of the ship was the MSC Hong Kong office, and MSC also appears to have been the ship's beneficial owner. Records show that the MSC Jessica was sold to "Indian shipbreakers" while it was in Oman around 21 May. However, according to MSC's answers to questions from the EJOLT research project about the accident, the MSC Jessica was sold to a St. Vincent company in "early June", suggesting that the MSC may have still been operating the ship when it was beached on June 6, or just before that.

In 2011 the container ship MSC Chitra collided with the Khalijia3 in the port of Mumbai. After



a long effort to remove most of the containers from the ship, the MSC Chitra was sold to be scrapped in Alang for around \$7 million, according to a TradeWinds article headlined “Too dangerous for demolition?” But after it became clear that the ship was too damaged to be towed even the relatively short distance to Alang, Indian authorities ordered for it to be sunk outside of Indian territorial waters.

The Panama Maritime Authority greenlit the operation; their seal of approval was necessary since the MSC Chitra was sailing under the Panamanian flag. But this did nothing to allay serious concerns about the environmental

© PRADEEP SHUKLA - Alang, India 2015



impact of the sinking operation, even though MSC insisted that cleaning teams were sent aboard before the pumps were shut off. In a rare statement by the company about the incident, MSC emphasised that it was no longer “in control of the vessel when the tow commenced” – an evasion of responsibility that is almost standard practice in the industry.

In 2017, MSC Alice was scrapped at the Honey Ship Breaking yard, which has a privately-issued certificate known as Statement of Compliance with the Hong Kong Convention, a multilateral treaty aimed at regulating ship recycling that isn't yet in force. Even though this certification suggests that it is one of the better yards in Alang, there is evidence that its scrapping procedures leave a lot of debris behind in the water and on the beach. And the accident on August 31 of this year, in which two workers died while dismantling a cruise ship, shows that these certificates – which have no legal validity and have become a lucrative business unto themselves – are by no means a guarantee of

safe shipbreaking practices.

WILD WEST COMPANIES

MSC hasn't just been using beaching yards in Alang to scrap its decommissioned ships. Some MSC vessels have also ended up in Chittagong, Bangladesh, where labour and environmental conditions are generally even worse than in Alang.

Mohamed Ali Shahin, who works for Young People in Action (YPSA) and is deeply involved in the shipbreaking issue, tells me on the phone that, earlier this year, two workers died at the Zuma Enterprise yard – Mohamad Khalil, 40, on March 31 and Shatikul Islam, 28, on April 24. Both were working on the MT EKTA, an oil tanker that, according to shipping databases, was sold to the breaker by the Swiss shipping company Navimar and scrap dealer Wirana. Navimar bought the vessel that was operated by Maran Tankers, a subsidiary of Greek Anangel Shipping Group, in September 2017, a

mere month before it was brought to the beach of Chittagong – a tell-tale sign that the Swiss company acted as a conduit to scrap the ship. “That a Swiss company would send a ship for breaking and recycling to one of the worst yards in Chittagong is something we find hard to understand,” Shahin said.

“Zuma Enterprise has no safety measures, no compliance to international environmental standards, no waste management. Why would a Swiss company choose to cooperate with such an unsafe yard?” he asks. Zuma is not only unsafe, it is also stingy with workers’ health. “Their practice is to pay the family of a worker who died in an accident the legal minimum of 100,000 taka,” or a little over €1,000, he said. “But other yards would compensate such a tragic loss with 500,000 taka. Unfortunately, nobody seems to have a formal insurance policy.”

Shahin paints a picture of an unchecked industry, one where human lives are

dispensable and the environment is treated as a waste dumping ground. Yes, the government could be doing more to make the yards cleaner and safer, but the responsibility doesn’t just lie with Bangladesh, he said. “European ship owners could do so much more to demand and stimulate safe and clean shipbreaking. They can enforce European standards and they should invest, for instance, in waste collection facilities. And, of course, they could start with cleaning out their ships of all the toxics before they even send them down to South Asia. The ship owners have a responsibility to protect the environment, don’t they?”

Shahin notes that out of 50 yards, only one facility – the PHP recycling yard – has a Statement of Compliance with the Hong Kong Convention. PHP is short for Peace, Happiness and Prosperity. That sounds nice, perhaps too nice to be true, too nice to be true, but certainly worth fighting for.



"Every day on the shipbreaking yard can be your last."

Written by **Gie Goris**

He actually enjoyed working on the MSC Alice last year and looked forward to beginning dismantling the MV Ocean Gala. Not because the work was fun or well paid but because out of the labour options available to Bhuddabhai, this was the best one. His precarious position left him vulnerable and in the end, it killed him.

In a flash, I see my own father in front of me. Suddenly looking too old for his age, broken by the news I was the bearer of. The father before me, though, is Dhammabhai Kudesha. Although his face and posture betray the tell-tale signs of a hard life, the summer of 2018 was too much, even for him. I see an old man whose eyes can still see but are devoid of light – my father looked the exact same when, a

quarter century ago, I told him that his 32-year-old son had died in an accident. At least we shared a language and history to talk about the unspeakable pain. There was nothing of the sort between Dhammabhai and me. But his sorrow-filled powerlessness was obvious to me during the uneasy interview I completed with him in Alang in September.

Bhuddabhai was 33. On August 31, like on every other working day, he woke up around 6 in the morning, when the first morning light starts colouring the darkness and silence in his village in the Indian state of Gujarat on the Gulf of Khambha. His eight-year-old son and two daughters, aged six and four, were still sleeping but his wife was already up and preparing their breakfast. Six years ago, Bhuddabhai managed

to get a job on the shipbreaking yards of Alang, situated about 3km from their house. He knew how rare it was for a Kholi, originally a fisherman's caste but now mostly day labourers in seasonal agriculture, to find work in that industry.

Sure, he didn't work as a gas cutter, one of the most sought-after positions. He'd only had three years of formal schooling after all. But still, Bhuddabhai was able to earn a living by collecting furniture, dishes, taps, lamps, fake paintings and other small and big items from the ships' living quarters. He was busy removing toilets from the MV Ocean Gala on the morning

of the accident. His employer would later sell all these items to the second-hand shops that line the road to Alang for 10km on both sides. It wasn't a particularly well-paid job, but it certainly made a better living than the farm work his father and younger brother Rajabhai did. Bhuddabhai would often lend them a hand on Sundays or before he left for the yards on his Honda Hero Splendor at 7.30 in the morning.

August 31 marked the last time Bhuddabhai took the dusty road from his home to the Honey Ship Breaking yard. I visit Alang only a few days later and the exact circumstances of the accident are still murky when I talk to his



© AMIT DAVE - Cruise ship Ocean Gala at Honey Ship Breaking yard - Alang, India 2018

family. What is clear is that a piece of the hull must have broken off unexpectedly or in an unforeseen manner, taking Bhuddabhai down with it as well as Ali Ahmed, the gas cutter who was cutting through the steel on the ship's ninth floor to create an extra exit. Neither of the two men, or the other workers, were wearing safety belts. Nor were they required to, said Raj Bansal, the shipyard owner. The workers were inside the ship; only cutters working on the ship's exterior must wear safety belts.

Dhammabhai heard the tragic news from his other son Rajabhai, who was alerted by locals who themselves received word about Bhuddabhai's accident from fellow workers on the yard. Bhuddabhai was brought to the public hospital in Bhavnagar, a provincial town of some 700,000 inhabitants, a little more than 50km from Alang. It takes more than an hour to cover that distance over the narrow two-lane road, which is littered with speed bumps and bristling with idle cows, trucks and dangerous traffic. His fall was too steep, the journey to hospital care too long. Dhammabhai buries his face in his white turban. Exactly one month before the accident, Rajabhai explains, his mother died.

Which god did Bhuddabhai pray to? Who was on the family altar, I ask. "Chamunda," says nephew Khanjibhai, who assists Bhuddabhai's father and brother during the interview. It is hard to think of a goddess further removed from the overcrowded Hindu pantheon, with its sugary, Pantone-coloured gods and comforting round shapes. Chamunda has bulging eyes, an emaciated body with protruding ribs and bones, and is often depicted with bloodied hands or teeth. She is a goddess who incarnates the raw suffering of human life at the bottom dredges of society. She does not provide soothing comfort, but reminds that strength is found in the unrelenting, daily struggle that is the human condition.

I ask what Bhuddabhai's widow and family expect from his employer. "Nothing," they say, an answer that packs centuries of humiliation and marginalisation. Kholis have never had to expect anything from India's wealthy or upper castes. But when I press the question, it becomes clear that there is more to the family's seeming passive acceptance; there also is the comfort of knowing that today might be different after all. The Honey Ship Breaking yard owner paid 25,000 rupees (€300) for Bhuddabhai's funeral – an amount that did not cover its full cost but certainly helped the family stay out of debt for the time being. And the ship owner, they say, is filing compensation paperwork.

Whether the family will receive full compensation and how much money they might receive, the brother and the nephew don't yet know. Bansal, the yard owner, is affirmative when I talk to him a few days later – there will be a compensation of around €6,250, an amount that corresponds to three years of work on the yard. But a pension for the Bhuddabhai's widow, Bansal says, is not in the cards.

Today though, the mute desperation on Dhammabhai's face suggests, the loss cuts too deep to even be thinking about money matters. But he knows, or rather, hopes that the Alang Soshiya Ship Recycling & General Workers Association (ASSRGWA) will keep a close eye on the case, even if Bhuddabhai was not a union member. When I speak to Vidyadhar Rane, the union's secretary-general, he confirms that he will do whatever it takes to defend the rights of the widows of Bhuddabhai and Ahmed, the other shipyard worker who died in the accident.

TWO SIDES TO EVERY STORY

"There is no union in Alang," says Nikhil Gupta, co-owner of Rudra Green Ship Recycling. "And that makes doing business in Gujarat so nice; we have no unions because everybody is on

the same page.” Gupta makes this surprising – and patently untrue – statement at the end of an interview during which he tried to explain the economic laws of demand and supply that govern the byzantine world of globalised shipping and shipbreaking. Or, as industry captains like him prefer to say, “ship recycling”. He is quick to disparage the efforts of Rane, the union secretary-general. “That man is from Mumbai,” he says, refusing to even mention him by name. “He has no following here.”

Although the other yard owners I speak to aren’t as dismissive, no-one has anything resembling a formal relation with the union. Nor do they engage in collective bargaining at the company or – God forbid – sectoral level. “When there are problems, we deal with the workers directly. Much faster that way,” says Nitin Kanakiya, the secretary of the Ship Recycling Industry Association (SRIA) and the owner of Triveni Yard in Alang.

The workers themselves take a less rosy view. Rakesh Kumar wouldn’t want his sons, now 15

and 13, to join him on the shipbreaking yards. “The work is far too dangerous,” he says. Kumar is a migrant worker, as are the vast majority of labourers in yards in Alang and Sosiya, a lesser-known neighbouring village that has also lost its beaches to the shipbreaking industry. They hail from other Indian states, some situated more than a 1,000km to the east of Alang – places like Uttar Pradesh, Bihar, Jharkhand and Chattisgarh.

Most of them came on their own. Alang is not a good place to bring your wife and children, they say. It’s hard enough as it is to find a bed for one man. Lodging prices increased tenfold in the villages that line the shipbreaking yards and even though it’s been five years since the Indian Supreme Court ordered for safe and affordable housing to be built, not a single dormitory has opened. Every employer I speak to repeats the same line – the housing is all but ready. But the promised dormitories, if they ever see the light of day, will accommodate a thousand workers at most, when the yard workforce averages 30,000 men.



Ravin Kumar (no relation to Rakesh) became a father for the first time in August, two weeks before I talk to him in Alang. He has no idea when he will be able to visit his wife and child in Gorakhpur, Uttar Pradesh. “Insha’Allah, as soon as possible,” he says, with a timid smile. Rakesh’s wife and their three children live in the Bundelkhand region of Uttar Pradesh. He visits them at least once a year during his unpaid weeks of vacation. He has worked as a gas cutter in Alang for 15 years now, cutting thick steel plates from the giant ship hulls.

These gas cutters are the best paid workers on the yard, with monthly salaries of around €200 for six-day workweeks and working hours that last from 8.00 till 19.00. Every day a worker is sick or remains absent is a day without pay. Although the Indian government enacted a Ship Recycling Act in 2014, enshrining a number of basic rules and procedures concerning workers’ safety and health, shipbreaking in Alang to a large extent remains an informal labour sector.

“The laws to protect workers are insufficient and they are not enforced,” says Dr Sahu Geetanjoy, a researcher at the Tata Institute for Social Studies in Mumbai and one of just a few academics studying labour conditions in the shipbreaking industry. The government’s own financial interests may explain tepid interest to enforce labour and environmental rules, he says. Through taxes and the leasing of beach plots, the shipbreaking industry contributes around 7 billion rupees (€87.5 million) to the Gujarat state coffers per year. This helps explain why the successive approaches of the Congress-led governments (1983 – 1998) and BJP governments (1999 – 2018) hardly show any differences.

“During the state assembly elections of December 2017, both the current Indian Prime Minister [and long-time Gujarat Chief Minister] Narendra Modi and Congress supremo Rahul

Gandhi went all the way to support their parties in Gujarat. During the campaign, both of them visited more than 20 temples. None of them visited Alang. It is not difficult to see where the real priorities are,” Dr Geetanjoy says with a sigh. This summer, Gandhi was scheduled to visit the shipbreaking town, but the visit was cancelled at the last moment.

HELP IS NOT ON THE WAY

When I ask Rane, the ASSRGWA secretary-general, which needs the government should address in 2019, the trade unionist recites a list of demands that ought to have been met some time ago. “Housing. Toilets. Canteens. Correctly paid overtime. Paid vacation days. Health and accidents insurance for everybody. Adequate hospital capacity.” The latter can mean the difference between life and death when disaster strikes.

Still today, workers with serious injuries need to be transported all the way to Bhavnagar with one of just two ambulances. In Alang, there is a small, 10-bed clinic run by the Indian Red Cross, as well as the Alang Hospital, which has 20 beds. That is insufficient, to say the least, for an area that spans almost 160 yards and a population of between 15,000 to 30,000 people who are dismantling giant ships in dangerous circumstances. The numbers shift and vary with every interview, and official numbers are not available, since most labour is informal anyway.

In 2013, the Indian Supreme Court took a similar view and ordered the Gujarat Labour and Employment Department to do something about the yawning gap between existing health needs and the available care by building a 100-bed health facility. The shipyard owners’ first response was to question the validity of the court order because it made reference to industrial regulations and, they said, Alang should not be considered an industry because

it “breaks” rather than “produces”. This shallow semantic reasoning was summarily rejected by the court. Yet it later became clear that a health facility is only mandatory by law when “at least 25,000 employees [are] registered under this scheme. However, in the case of Alang-Sosiya, a total of only 16,067 workers were registered,” Dr Geetanjoy says.

“Much has changed for the better in the past 10 years,” Rane adds. “It is accepted, in principle, that employers should ensure all workers are insured. That they get all the protective personal gear prescribed. That they should pay at least minimum wages. But we only just started the journey to decent work on these shipbreaking yards. There is much distance to be covered before all that is compulsory today will also be provided and even when that happens, it would still be a far cry from real decent work.”

Unions and employers do seem to see eye to eye on the strategic way forward – India has to ratify the Hong Kong Convention for Safe and Ecologically Sound Ship Recycling as soon as

possible and all shipbreaking facilities must take steps to comply with the convention at the earliest date possible. Because that is where Alang’s future lies. Both Rane and Komalkant F. Sharma, owner of the Leela Group of Companies, say that the ship recycling industry “will only become economically sustainable if and when it becomes ecologically and socially sustainable.”

ONE YEAR, FOURTEEN LIVES LOST

“Shipbreaking has grown into a major occupational and environmental health problem in the world. It is amongst the most dangerous of occupations, with unacceptably high levels of fatalities, injuries and work-related diseases,” the International Labour Organisation (ILO) warned in 2015. Dr Geetanjoy says that data from the Gujarat Industrial Safety and Health Department show that at least 470 fatal accidents happened in Alang between 2013 and 1983, when the local shipbreaking industry first developed.



Environmental group Toxics Watch counted 434 fatal accidents between 1991 and 2012. “There is no central and reliable register of accidents on the yards,” Dr Geetanjoy explains. In a report, the Indian Supreme Court contrasted the incidence of fatal accidents in shipbreaking (2 in every 1,000 workers) with that in mining, “which is considered to be the most accident-prone industry (0.34 per 1,000 workers).”

On August 31 Bhuddabhai Kudesha, from Alang, and Ali Ahmed, from Jharkhand, died in an accident at the RKB Group-owned Honey Ship Breaking yard (plot 103), while working on the MV Ocean Gala ship.

On June 22 Pintu Das, from Odisha, died and two other workers sustained serious injuries while working on the MV Baltic Pride at the Mariya Ship Breaking yard (plot 125).

On April 15 Ravindra Chaudari died while doing maintenance work at the Leela Ship Recycling yard (plot 2), when a partially cut steel sheet came loose from the hull of the Pata Glory and thundered down. According to the Times of India, the accident gave rise to riots in which a number of Leela yard offices were vandalised. “The labourers were protesting against the practice of making them work on Sundays,” the article read. Nonsense, says Nijay Agrawal, the chief operating officer at the Ships S&P branch of the Leela Group.

“Only the maintenance team was at work, and everybody on the yard volunteered to work that day,” he says, as if the workers had a realistic and free choice to stay home. “The protests were instigated by external agitators,” he adds, without offering any further explanation or proof for his claim. “The accident was caused by a storm wind, blowing the zadap out of the hull,” adds Leela Group director Vishaal Raj Soni, using the local term for the steel sheets. “Since this accident, the rule on our yards is that

According to the reliable figures I was able to gather, **14 WORKERS DIED IN YARD ACCIDENTS BETWEEN SEPTEMBER 2017 AND OCTOBER 2018**. Here's what we know about their deaths:

Arvind Kanojiya (22), 14 September 2017; K.P.G. Enterprise

Yogesh Dubey (40), 7 December 2017; Nagarsheth Ship Breakers

Raju Gupta (45), 12 December 2017; Hatimi Steel

Chandrashekhar Dangi (32), 28 December 2017; Shiv Corporation

Ramjee Sharma (42), 8 February 2018; Shital Ispat Pvt. Ltd

Ram Nayan (48), 14 March 2018; Samudra Alloys Pvt. Ltd.

Balram Yadav (41), 14 March 2018; Samudra Alloys Pvt. Ltd.

Joginder Tulsidas Chaudhari (25), 15 April 2018; Leela Ship Recycling Pvt. Ltd.

Sanjay Ram, 28 April 2018; Khushboo India Pvt. Ltd.

Pintu Das, 22 June 2018; Mariya Ship Breaking Ltd.

Naago Singh, 27 August 2018; Shri Gaitam Ship Breaking Ind. P. Ltd.

Ali Ahmed, 31 August 2018; Honey Ship Breaking Private Ltd.

Kudecha Bhuda, 31 August 2018; Honey Ship Breaking Private Ltd.

Rajendra Yadav (45), 11 October 2018 (died October 18); Rudra Green Ship Recycling Pvt. Ltd.

no zadap can be left half cut, unless it is safely blocked by a crane or another instrument.”

A DIFFERENT KIND OF HELL

If Alang is problematic on many counts – including labour conditions, damage to the environment and rule of law – Chittagong in Bangladesh and Gadani in Pakistan are worse. Consider, for instance, that the information I gathered on fatal accidents in Alang covered 30,000 workers at 150 yards. In Chittagong, which has around 100 yards, 19 workers died in the first 10 months of 2018.

“This is one of the worst years since 2009, when 25 workers died,” says Shahin from YPSA,

speaking on the phone from Chittagong. Mohamed Ali Shahin, who works for Young People in Action (YPSA) and is deeply involved in the shipbreaking issue, tells me that the day before we speak, on November 10, a worker died at the SH Enterprise yard while breaking the Ukraine-owned MV Velda. And the day before that, another worker died while disassembling the Indian-owned Peri on the Golden Iron Works yard.

© **STUDIO FASCHING** - Burns on worker's hands
Chittagong, Bangladesh 2017



The Chittagong shipbreaking yards stretch along the coastline of Sitakund for approximately 15km. During the 1960 and 1970s, locals started scrapping the vessels that were wrecked on their shores. Shipbreaking first developed into an industry in Bangladesh in the 1980s but it was not officially recognised – and thus not regulated – until 2011.

In March 2009, the Supreme Court of Bangladesh issued a landmark decision ordering the closure of all the Chittagong shipbreaking yards because they lacked the necessary environmental clearances to operate. The yards later reopened after obtaining false certifications. Since then the Court has issued a contempt rule asking government officials and the Bangladesh Ship Breakers Association to explain why they have not implemented the March 2009 judgement. Although there are laws in Bangladesh protecting both workers and the environment, they are poorly enforced due to a lack of resources such as a shortage of labour inspectors. Industry pressure, in addition, causes local authorities to deliberately turn a blind eye.

End-of-life vessels are imported with fake certificates claiming that the ships are free of hazardous materials. The result is that those substances are not detected nor safely removed or discarded. The World Bank has estimated that Bangladesh will have imported 79,000 tonnes of asbestos, 240,000 tonnes of PCBs and 69,200 tonnes of toxic paints between 2010 and 2030 from end-of-life ships. There continues to be no storage and treatment facilities for hazardous waste in the Chittagong area, and hazardous materials are simply dumped somewhere or resold as a result.

The shipbreaking industry in Bangladesh is responsible for the extinction of 21 fish and crustacean species, and the endangerment of 11 other species, according to the Institute of

Marine Sciences and Fisheries at the University of Chittagong.

In addition to these pollution problems, miles of protected mangrove trees have been cut to make way for ships. The coast and its fragile ecosystem have been destroyed in the process. According to a YPSA estimate, around 60,000 mangrove trees have been cut down along the 14km stretch of coast near Chittagong in the past few years. Mangroves are essential to the fragile coastal ecosystem, functioning as a last barrier against typhoons and floods.

In 2009, 14,000 mangrove trees that had been planted with United Nations funds were cleared to make room for shipbreaking yards. In 2010, the High Court of Bangladesh ordered four shipbreaking yards to close shop and replant the mangrove trees that had been cut down. It would take until October 2013 before the yard ceased operating. The mangroves, however, were never replanted.

Like in Alang, many of the shipbreaking workers in Chittagong are internal migrants. Many of them come from northwestern Bangladesh, a poverty-stricken region with very little industrial activity, while others hail from the greater Chittagong area and neighbouring areas in the southeast of the country. Many of the workers return to their villages during the harvest season, and there is a lot of movement of workers between the yards. The workers live in unsanitary and poor accommodation, and they work long hours, receive no holidays and usually do not have labour contracts. The shipbreaking yards prevent trade unions from effectively organising the workers.

According to a report from the NGO Shipbreaking Platform at least 34 workers were killed in the last two years, while at least 32 suffered severe injuries. The majority of the deaths are caused by fires, falls from great



height and workers being crushed by ship parts that come loose. The nearest hospital takes too long to get to during emergencies and the injured workers in many cases do not automatically receive financial support from their employers to cover the cost of medical treatment. Although the Bangladesh Shipbreakers Association arranged for a hospital to be built in Chittagong, this local facility operates like a private clinic and is only able to treat minor injuries.

MY COUNTRY IS THE SEA

On 3 August 2018, the Swiss shipping company Navimar SA posted the chorus of *Canción del pirata* by José de Espronceda, Spain's most important Romantic poet, to its Facebook page. "My treasure is my gallant bark / My only God is liberty / My law is might, the wind my mark / My country is the sea," the post read. The poem lines might easily appeal to all those working in the shipping industry, even its many engineers and office staff who seldom get their feet wet in the waters. But those who look up the full

poem will notice that de Espronceda also very precisely articulates the industry's attitude toward workers.

"I am condemned to die! I laugh
For if my fates are kindly sped
My doomer from his own ship's staff
Perhaps I'll hang instead.
And if I fall, why what is life?"

The shipping industry has always been difficult to regulate and it still cultivates a swashbuckling culture. Companies that reject or circumvent regulatory controls are seen as rebellious heroes rather than for what they really are – morally bankrupt.

Mendeleev beaches: shipbreaking and the spilling of copper, cobalt, manganese, lead, cadmium, nickel, zinc and mercury

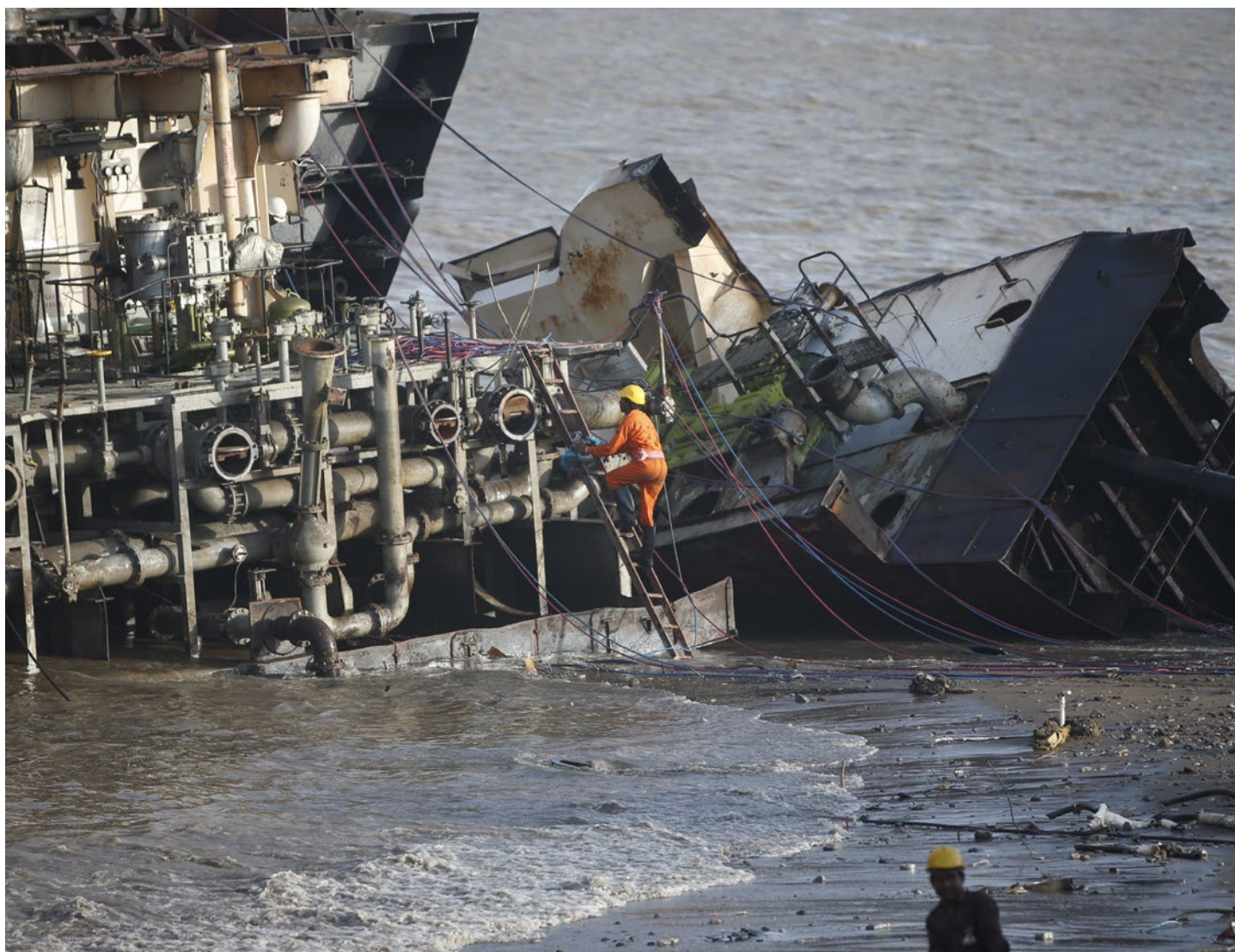
Written by **Gie Goris**

The shipbreaking yards in Alang and Sosiya take up kilometres of beach along the Gulf of Khambhat, where the Arabian Sea cuts deep into the state of Gujarat. A big, blue banner welcomes visitors who enter the Alang-Sosiya Ship Recycling Yard, but it is a welcome that is quickly revealed to be conditional.

Journalists, academics and foreigners can in general only enter with permission from officials in Gandhinagar, Gujarat's capital. The procedure can take months or longer and in the rare instances where permission is granted it comes with many restrictions limiting access. Without that green light from Gandhinagar, visiting the shipbreaking yards is only possible by circumventing the Gujarat Maritime Board

checkpoint, persuading a yard owner to give his go-ahead or having an extremely well-connected liaison who can introduce you.

I have that well-connected liaison, who knows how to convince the yard owner, and who finds – by trial and a few mistakes – the backroad that brings us to the beach without passing the GMB checkpoint. I begin my visit with the Shree Ram yard supervisor in plots 78 and 81, a site that was visited and inspected by the DNV GL classification society for the European Commission. Because a vessel was being towed closer to a makeshift quay, the supervisor suggested we drive over to the RK Unit II on plot V-7 in Sosiya, a yard that is also operated by Shree Ram.



At superficial glance, these yards seem well organised; they are equipped with concrete floors for secondary cutting. They have cranes that are able to grab onto ship parts before they fall down to the beach and waste collection spaces for oil and other toxic substances. I nonetheless spot a part of an Evergreen ship, a Taiwan-based shipping company, in the water during my visit. Partially submerged because of the high tide, its presence suggests that ship pieces are still falling to the beach in this yard too.

Making cut-off steel slabs fall to the ground is called the gravity method in shipbreaking parlance. These large steel pieces are supposed

to be picked up by cranes and deposited on a hard and impermeable floor so they can be cut up further into transportable pieces. The fact that these slabs keep landing on the beach, even in a yard that is trying to obtain a highly coveted European certification, shows how incredibly difficult it is to adopt a clean, EU-proof shipbreaking practice on beaches.

Still, that is the challenge. Because one of the key differences between the Hong Kong Convention (HKC) and the EU Ship Recycling Regulation (SRR), which became applicable on January 1st of 2019, is precisely that the former allows the gravity method while the latter doesn't. The EU wants to prohibit this shipbreaking method

for many reasons. It is dangerous for workers and harmful to the environment. The incredible impact of falling tonnes of steel combined with the process of cutting steel using extremely high-temperature gas flames causes a lot of often toxic paints to be released into the sea and soil. The ebbing and flooding ocean washes out all the oil residues, the heavy metals and the toxic substances that have not been removed timely and completely, and spreads the pollutants across the maritime environment.

Even the Gujarat Maritime Board seems to understand the urgency of the issue. In the summer of 2017, the GMB notified the local SRIA shipbreaking industry association that every yard owner would have to install impermeable floors on the beaches they used and rented by 30 July 2018. The letter explained the new requirements by explicitly referring to the HKC, before telling owners that the floors had to be certified by “a reputed classification society”.

Yards that didn’t comply would face swift repercussions, the board warned. “Beyond this timeline, no ship shall be allowed to be beached,” it said.

We could not inspect all yards, since we were not allowed access by the GMB, but we certainly saw yards that lacked even minimal flooring.

A HUGE ENVIRONMENTAL BURDEN

Although some have greeted the HKC as the incentive the industry needs to upgrade its yards and practices, Gopal Krishna, representative of Toxics Watch, says it may create a false image of progress. “[I am] disappointed by the way the EU has abandoned its position on Ban Amendment and Basel Convention, although the latter is the only law which governs end-of-life ships,” he says in written answers to my questions. “The EU has ended up endorsing a regressive unborn treaty like Hong Kong

Convention which is anti-labour and anti-environment. It facilitates ship owners to escape their decontamination cost and environmental and occupational health cost.”

It is hard to find someone who’s willing to make the ecological consequences of shipbreaking for local beaches their number-one priority, either in Alang or the district capital Bhavnagar. Dr Geetanjay, the Tata Institute professor, attributes the lack of environmental awareness to the fact that the local community, by and large, no longer depends on the natural maritime environment for its livelihood. “Fisherfolk left or turned themselves into workers for the larger economy that grew out of and around shipbreaking,” he says.

To make matters worse, there is a dire lack of research into the state of fish populations, groundwater, air quality and noise pollution in the region, he explains. “The government makes it all but impossible to work independently in Alang, even for Indian researchers. That makes you wonder: What is it that needs to be hidden? Which interests need to be protected so desperately?”

Still, it’s not that there has been no research at all into the environmental impact of shipbreaking on beaches in Alang and Sosiya, or that research findings have been ambiguous. In June 2016, the EU Directorate-General for Environment published a thematic issue of its Science for Environment Policy weekly news alert that was focused on reducing the human and environmental impacts of ship recycling. The issue provided an overview of several studies, one of which clearly showed just how heavily the Alang-Sosiya natural environment has been polluted by copper, cobalt, manganese, lead, cadmium, nickel, zinc and mercury.

A 2001 study mentioned in the thematic issue found that mercury levels in Alang were 15,500%

higher than at a control site. For petroleum hydrocarbons, the found levels were 16,973% higher. The researchers also found very severe bacterial pollution and distortions, with for example 349% more *E. coli* and 394% more *E. faecalis* than at control sites. These bacterial distortions are linked to very elevated metal levels in the water and decreased levels of salt, and both phenomena are related to the shipbreaking yards on local beaches. This bacteriological pollution was also confirmed in a more recent 2014 study. Yet another 2006 study found that 40 to 50 % of the pollution caused by shipbreaking in the Alang region is plastic based. This plastic will end up in the food chains of the local population and that further afield, making this a long-term problem.

In 2015, the maritime environmental consultancy Litehauz prepared a report about the environmental impact of shipbreaking on beaches for Maersk, the world's largest container shipping company. The Danish company had just decided to return to Indian beaches to scrap its end-of-life vessels. Their report in large part drew on the same research that would make up the bulk of the EU Directorate-General news alert issue a year later.

In its review, Litehauz stresses that the practice of breaking ships open in intertidal zones causes most of the pollution as it inevitably brings the ocean water into contact with oil residues and other polluting substances in the ship tanks or other ship parts. During high tide the ship is partially underwater, making it very hard to prevent the release of hazardous substances into the environment. With tidal ranges of up to 12m in India, this problem is much more acute and difficult to address there than in Turkey, where tidal ranges are close to zero.

The Litehauz review also highlighted another problem – the enormous amounts of steel that melt into the environment when the hull is cut

up with high temperature gas flames. The study estimates that breaking a ship of 10,000 light displacement tonnage (LDT) results in no less than 120 tonnes of steel melting into the environment. In the same process, about two to three tonnes of paint are burnt in open air. Even at the upgraded yards applying for EU recognition, all of this activity takes place on the beach, making it impossible to prevent the polluting substances from spilling onto the beach and into the ocean.

BLIND AND DEAF GOVERNMENTS

The findings of the Litehauz report did not stop Danish container shipping giant Maersk from reversing its practice of not beaching ships and returning to the beach yards; nor have they kept big shipping companies like MSC and CMB from continuing to use beaches while simultaneously making lofty statements in their sustainability reports. Maersk even used to claim that its vessels were broken according to the high standards adopted by the company in 2015 – until the Danish watchdog group DanWatch proved otherwise in an undercover research investigation.

Although Maersk commissioned a new report in 2017, it has provided little information about its results. According to one press release put out by the company, most of the examined 18 substances stayed below critical levels – except for oil residues, metals and TBT (a now banned substance that was used in anti-fouling paints in the past). Maersk added that all of its own vessels are now TBT-free though it remained mute on the ecological impact of the new paints currently being used.

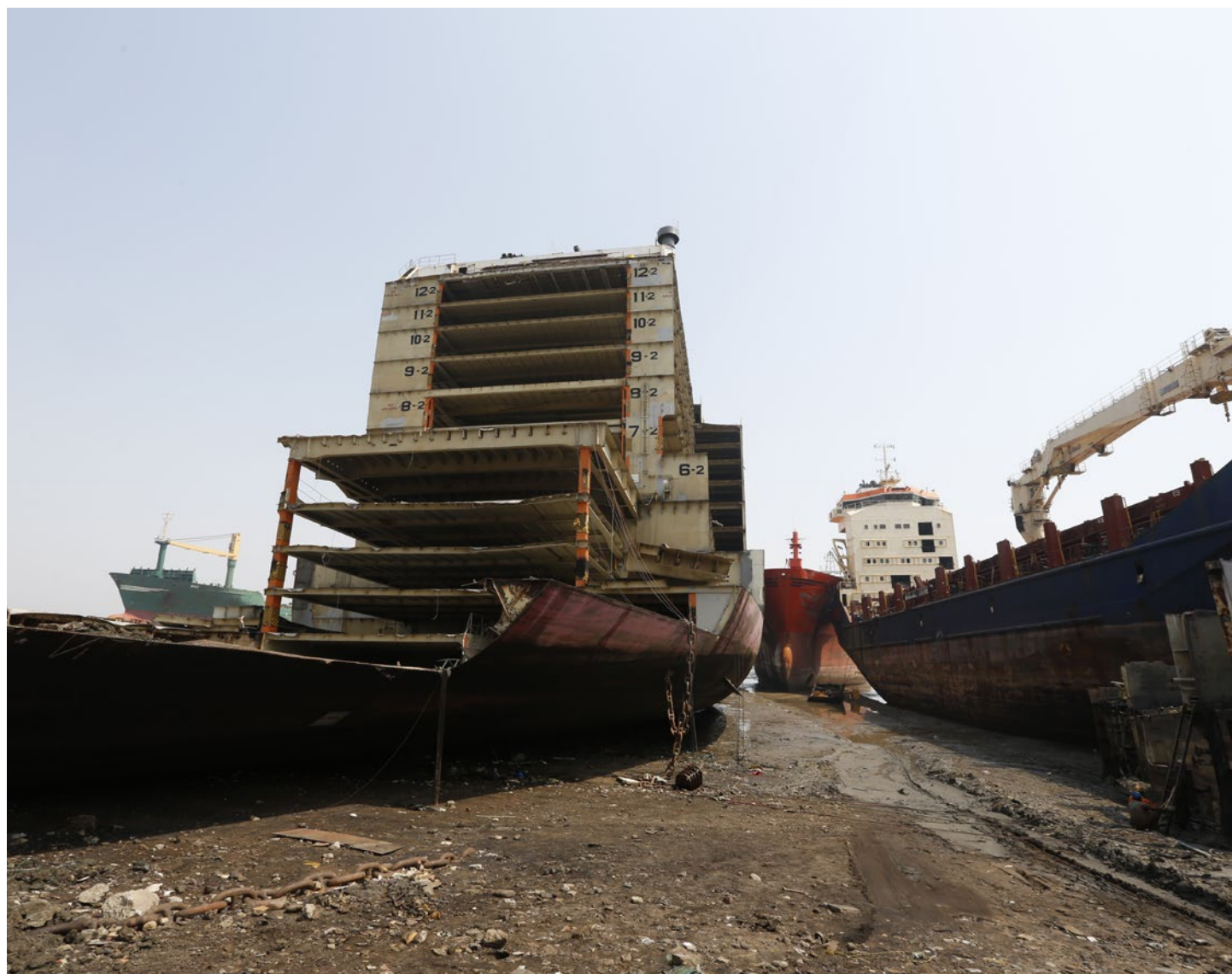
Neither of the reports commissioned by Maersk addressed what one of Bhavnagar's best journalists has called "the major environmental pollution in this industry." That's no exaggeration, Pradeep Shukla insists. "The

electricity cables that are taken out of the vessels are sold for about 40 rupees per kilo,” he tells me. “Informal sellers then take them out to a field and burn off the coating, so that they can resell pure copper – for 400 rupee per kilo.”

He shows me footage he took in a wasteland before he was chased away by copper sellers; it shows black smoke wafting up from fires. In fact, the cold re-rolling of steel – including the oft toxic paint – represents a less visible but much bigger source of air pollution. That industry also operates on a much bigger scale than that of the burning of electricity cables by locals, no matter how hazardous that is.

A group of scientists from Norway, Bangladesh and China conducted a thorough study of air pollution in Chittagong’s beaches in 2015 that produced worrying results. They found elevated human health risks that were directly related to the practice of shipbreaking. Since scrapping procedures in Chittagong, Alang and Gadani are largely the same, researchers would probably come up with similar results in Alang-Sosiya, if they were allowed to perform independent research there.

In Mumbai, Dr Geetanjoy warns that the limited environmental progress nonetheless isn’t solely



the result of lack of research and a sense of personal responsibility. “It is the utter lack of vision at the level of government, both central and state,” he stresses. “That is unacceptable, since shipbreaking yards do pay taxes and the GMB does have the responsibility to enforce labour and environmental rules. The government could simply decree that anyone breaking environmental laws or regulations will lose his permit to function as a shipbreaking company. It is a simple but I’m sure very effective measure to take,” Dr Geetanjoy says.

The problem is that his recommendations to lawmakers haven’t been heeded in the places where local policies are made. The government’s deafness to environmental concerns is illustrated by the fact that India is capable of building suitable, shipbreaking facilities away from beaches. Built and opened in 1999, the Pipapav yard was constructed to offer an alternative to the polluting yard practices in Alang. Although the yard is located just 100km from Alang, the ships never came.

Some industry actors, however, are taking responsibility. The Norwegian Oil Pension Fund for instance divested from four shipping

companies due to their beaching practices in January of 2018. “One particular problem with beaching is that shipbreaking takes place when the vessels are standing in mud and sand. As a result, the pollution leaches into the ground and is washed out with the tides,” the company said in a report.

“Even if arrangements were put in place at the beaching sites for the treatment of asbestos and PCBs, for example, the fundamental problem of containing and collecting the pollution would be impossible to resolve. There are better ways of dismantling ships that are readily available to the ship owner, but these are more expensive.” While lawmakers and the shipping industry may readily ignore a professor in Mumbai, it must be harder not to hear the voice of the world’s largest private investor.

“As long as the world allows shipping companies to choose the rules they want to abide by, regulation is all but impossible”

Written by **Gie Goris**

Baskut Tuncak is the UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes. As part of this mandate, he has devoted considerable attention to the issue of shipbreaking. “In shipbreaking yards, workers often are exposed to toxic chemicals including asbestos, dusts and fibres, highly toxic industrial chemicals which have been banned for decades but are still present in ships, as well as lead, mercury, arsenic or cadmium in paints, coatings and electrical equipment,” Tuncak’s predecessor wrote in a special report on the subject in 2009. “Workers are often without protective equipment to reduce exposure. Prolonged exposure to these chemicals increases the risk of developing

slow-progressing but fatal diseases, which may not become apparent until many years after exposure,” the report went on.

That was 2009. A lot of shipbreaking yards claim to have improved their yards and practices since then, at least in Alang. “Much may have changed, though as far as I know a majority of shipbreaking yards in South Asia have changed little or not at all; the basic problems persist,” Tuncak said when I spoke to him on the phone in November. “The very practice of beaching vessels and breaking them on the beach remains problematic. Yard owners and shipping companies claim that the improvements they are doing make it possible to prevent environmental damage, but so far there is no scientific proof to back up that claim.”

The Hong Kong Convention is central to the industry's claims of progress and their talk of supposedly sound beaching practices. This international convention for the Safe and Environmentally Sound Recycling of Ships was concluded in 2009 but has only been ratified by six countries and thus hasn't entered into force yet. Still, it is being used as a standard ship owners should strive toward and as an excuse to claim good practices. "That is very regrettable," Tuncak said. "Not because the convention is still pending, but "because the HKC aims to replace an existing and very good framework for breaking and recycling ships – the Basel Convention," he said. "It seems to me that the Hong Kong Convention was only brought about to undercut Basel and to lower its established standards of protection for workers and environment."

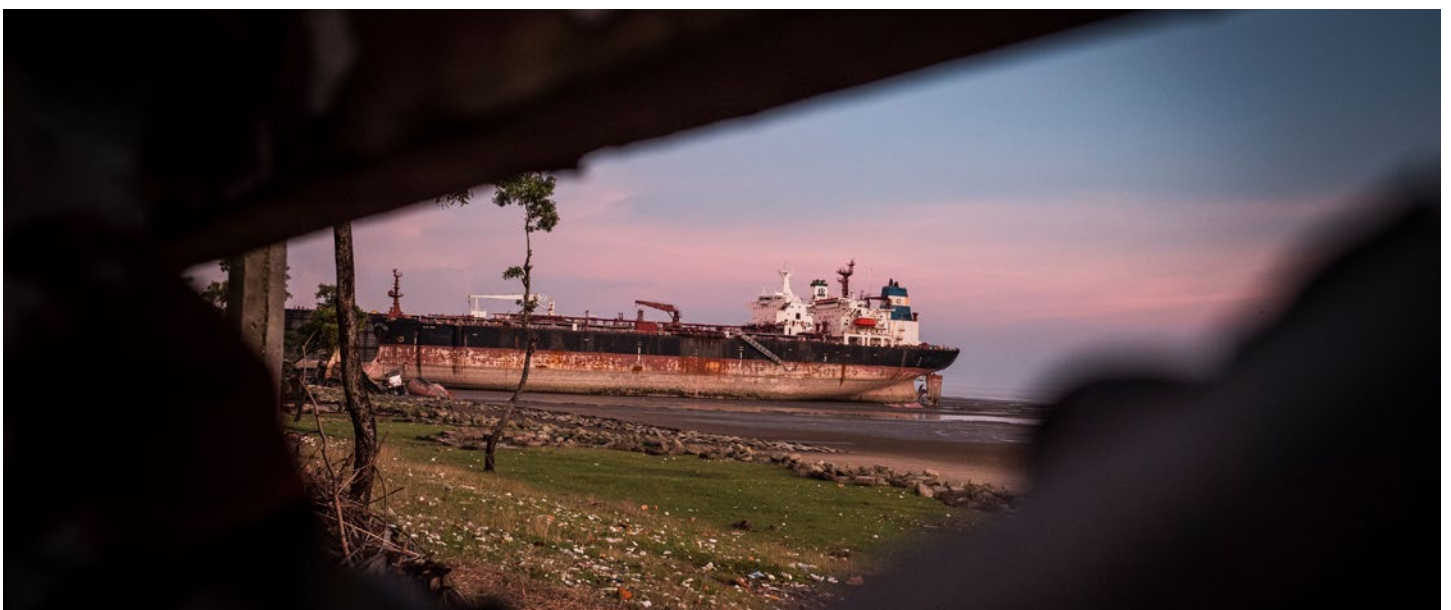
The driving force behind the HKC is the International Maritime Organisation (IMO), the United Nations specialised agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. Tuncak certainly sees an important role for the IMO, but points to the fact that the organisation is also industry-

focused. It consequently shouldn't be the sole or main party to decide on issues with very profound impacts on human rights, biodiversity and other environmental concerns.

Tuncak also has serious questions about the certificates of compliance to the HKC. "I have closely studied the governance structure of one of the main certification companies, ClassNK, and that shows clearly that these private companies are not at all independent and should rather be seen as extensions of the shipping industry," he said. "The question, then, is what the authority is of such a company and of the certificates they deliver."

A BEACH IS A BEACH

During the interview, Tuncak often prefaced his answers with phrases like "as far as I know" or "the information I have". From my own experience, I knew how difficult it is to obtain independent access to Indian shipbreaking yards, so I asked the UN special rapporteur whether he had the information needed to assess the situation. "I would like to do a follow-up visit to India and to Alang, almost 10 years after my predecessor's visit.



I have signalled that many times to the Indian government, but I don't get a response to those requests. And without an invitation, I cannot go on an official fact-finding mission, though informal study visits would still be possible," he said. "But then, how much access would I get? We do collect facts and knowledge through all means available, including unions, NGOs, etc."

Tuncak saw this lack of transparency as one of the most problematic aspects of the shipbreaking industry and noted that more transparency could give the industry the legitimacy it has so desperately sought. "If all is going well, then why not provide independent access to researchers or journalists? My feeling is that we are being kept out so that the industry can continue working with scant regard for workers, environment and human rights."

In 2018, the UN special rapporteur put out a report on the human rights implications of the environmentally sound management and disposal of hazardous substances and waste. Paragraph 40 of that report reads like an unequivocal indictment of large shipping companies. "Workers continue to be exposed to toxic substances, including toxic industrial chemicals and highly hazardous pesticides, when demonstrably less dangerous alternatives exist. Another egregious example of an industry that continues to externalize impacts on poor workers and communities in developing countries by failing to apply the hierarchy is the shipping industry and its practice of shipbreaking."

That conclusion, Tuncak said, came out of his visit to Denmark and his discussions with Maersk. "Maersk's competitors did not follow their lead [after they swore off shipbreaking on beaches], which put the Danish company at a competitive disadvantage vis-à-vis companies like MSC, the second-biggest container shipper that continued to use beaches without

restrictions," he explained. "The bottom line remains profits and so there was so much pressure from shareholders that Maersk decided to return to beaching, with a lot of promises of clean practices and better conditions. But, still, a beach is a beach and intertidal breaking remains dirty business."

The shipping industry is one of the most globalised sectors in the world and it has such a complex structure that local governments and even international bodies have never seemed able to enforce rules and regulations – that is, unless they were written by the industry or seen as beneficial to it. This begs the question: Is regulation of shipbreaking even possible?

"It is possible to set real standards, as the Basel Convention has shown. But by trying to introduce the Hong Kong Convention, or the new EU Ship Recycling Regulation, governments are actively undercutting their own ability to regulate," Tuncak replied. "And the real Achilles' heel is always the possibility to swap flags. As long as the world allows shipping companies to choose the flag they fly and thus the rules they want to abide by, regulation is all but impossible and players big and small will continue to dodge the rules and evade their responsibilities."

Why beaching is so hard for companies to resist

Written by **Gie Goris**

The road to Alang is lined with shops and warehouses selling items that once used to sail across the world's oceans. Oak desks, faux crystal chandeliers, life vests and boats, ropes, electric cables and switches, leather chairs, paintings and reproductions, giant generators and motors – you name it. It is ship recycling in its most literal sense, even though all these commodities are in reality no more than surplus products. The real reason why huge ships end up on the beaches of Alang is their steel hulls and frames. Steel is where real profit is.

“Top dollars” are the two words that keep coming back when Indian shipbreakers talk profit, especially when referring to the profits made by others. “I am a businessman, so I

know the world would stop turning if not for money,” Nitin Kanakiya explains between bouts of hard coughing. Kanakiya owns the Triveni ship recycling yard in Alang and is the secretary of the local Ship Recycling Industry Association (SRIA), an umbrella organisation that brings together almost all the owners of the 150-plus shipbreaking yards in Alang. He makes the statement during a discussion in his Bhavnagar office about regulations aimed at making shipbreaking and recycling socially and ecologically sustainable.

Danish shipping company Maersk, one of the world's largest container shippers, explained what Kanakiya meant, in its 2015 Sustainability Report. For years, Maersk had instead opted to send its end-of-life ships to yards in Turkey

and China, which provided better labour conditions and a reduced risk of ecological damage. Maersk argued that its 2015 about-turn should be seen as an investment in Alang's best-performing yards and thus as a way of incentivising the entire shipbreaking industry along Gujarat's beaches to do better.

The company touted its new approach in its 2015 sustainability report. "Today, the majority of ships are dismantled and recycled at facilities on beaches. Here, the standards and practices often do not adequately protect the people working at the facilities and the natural environment. We have decided to play a role in changing this situation," CEO Nils Andersen wrote in the report's foreword.

But a short sentence in the report hinted at the company's true motives. "On average, using one of these yards [in Turkey or China] has an added cost of one to two million US dollars per recycled vessel," it said. A bit further down, the report furthermore observed that "using only responsible recycling facilities is estimated to incur extra costs of more than 150 million US dollars [over the coming five years], compared to using upgraded facilities in India."

The NGO Shipbreaking Platform itself calculated the difference in profit based on where ship owners send their ships for breaking. A container ship of 25,000 LDT, they estimate, would sell for more than \$11 million in India, \$7 million in Turkey and a little over \$5 million in China. These considerable differences are explained by several factors: the infrastructure investments required for beaching are obviously much lower than those for concrete slipways, piers and dry docks. Labour is cheaper in South Asia than in China and Turkey, while the demand for recycled steel is higher. The Shipbreaking Platform estimates that a big shipping company like the Swiss MSC, which has sent at least 80 vessels to Alang in the past

decade, has made €300 million in profits by choosing beaches over sound shipbreaking facilities.

Maersk's decision was met with severe criticism from Danish civil society and media, especially when a 2016 DanWatch investigation revealed that the first two ships the company sent to Alang were all but sustainably recycled. But the company stuck to its decision. This September, the Maersk Phuket arrived in Alang, the seventh Maersk vessel to be broken on an Indian beach since 2015, according to Jignesh Patel of the Gujarat Maritime Board.

Maersk sent its own staff to the Shree Ram shipbreaking yard, the site where the Maersk Phuket is beached. Although critics don't believe that Maersk's permanent on-site presence can make shipbreaking on beaches clean, other major shipping companies like the Swiss MSC don't even make the effort of overseeing the actual shipbreaking process.

A EUROPE OF MANY GUISES

Under the Indian Shipbreaking Code, the Gujarat Maritime Board is the state administration responsible for drafting and enforcing Indian rules and regulations for the shipbreaking industry. The GMB's real focus, however, seems to be to keep independent journalists and researchers away from the yards. What I observed during the two trips I made along and to the beaching yards of Alang without GMB authorisation made me understand why the administration is so keen on keeping outsiders out.

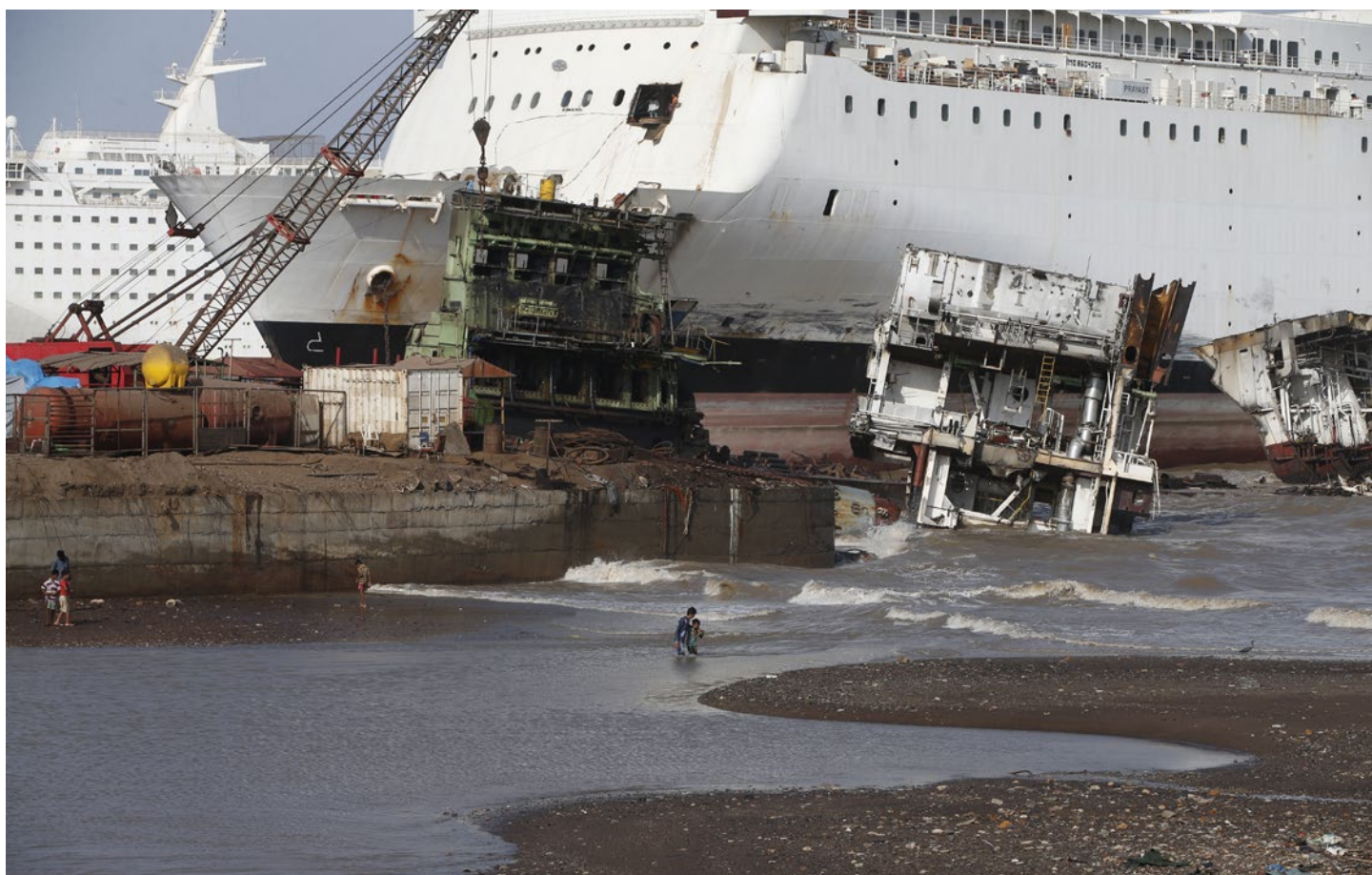
In spite of the talk of green yards, Hong Kong compliance certificates and upgraded facilities (estimated to account for 50 to 70% of all the Alang yards), most of the ships I saw were being broken on naked beaches and even the ones beached in front of upgraded yards would have

the ocean washing in and out when the tide was high and the hull open. The beaching yards might be closed off to people like me, but there are no barriers to contain the substances and debris that wash out of the open vessels and onto the beach, where I also spotted fishermen, women selling trinkets and children playing.

I interview several shipbreaking yard owners in Bhavnagar, the district capital, some 50km from Alang. Almost all of them claim to be HKC compliant and say their yards are certified as such. Since the Hong Kong Convention still hasn't entered into force, those certificates are of course hardly evidence of good practices. They in fact only prove that the private companies issuing them have drafted a statement that the yard that hired them understands the demands laid out in the convention.

Harish Parmar, owner of the Shiv Ship Breaking Company and joint secretary of the SRIA shipbreaking industry association underlines that all the shipbreaking yards in Alang will be HKC certified by 2020. But he is later forced to admit that his own yard has fallen behind on that schedule and that he is waiting for funds to arrive from Japan before investing in an impermeable floor for the secondary cutting of large steel ship parts, before installing cranes to prevent steel parts from falling down, before putting proper waste collection infrastructure in place, and so on.

Japan promised to lend €180 million to the Alang industry under an international assistance programme in 2018, so yard owners would be able to upgrade their yards to HKC standards. "Ship owners who really care for the environment should opt for HKC-certified yards



– else they are not serious in their commitment,” Parmar concedes. But between knowing and investing, there is a deep financial gap it seems.

Many of the interviews I conduct in Bhavnagar had a common refrain. It goes like this: “Alang’s yards are well on track to becoming green, but the Europeans lack serious commitment to the cause they preach.” Kanakiya, the SRIA secretary, is even louder and clearer. “Europe is hypocritical. From one side it demands the impossible in terms of salaries, insurances, safety and environmental protection, while from the other side their only interest is profit maximalisation, for which they are prepared to play one yard against the other,” he says.

The Europe Kanakiya fulminates against is a container concept, one that simultaneously encompasses the EU institutions and their new regulations and demands, the large European ship owners who usually disagree with the Commission on those rules, the media and NGOs. I hear similar complaints at Leela Ship Recycling, KBR Bansal Group, Shree Ram, Rudra Green and Shiv Ship Breaking.

“We did business with the big companies like MSC,” says Komalkant Sharma, the owner of the Leela Group of Companies. “But when we find that ship owners are only interested in top dollars, then it becomes impossible for us to continue doing business with them. Leela aims to be better than the rest in social and ecological terms, but that does not come free. And that is why European ship owners should shoulder their share of responsibility by stimulating the necessary investments by accepting lower prices for their vessels, or by engaging over a longer term with recycling companies. But the impression is that ship owners are in it only for maximum profit, while they dump the responsibility on the recyclers.”

A MERRY-FLAG-GO-ROUND

The polarisation between European ship

owners and Indian shipbreakers has all the hallmarks of a great news story – rich company owners and shareholders in the North in a no-holds-barred pursuit of ever greater profits, versus businesses in the global South that want to become more sustainable but are being forced to compete in a race to the bottom. But as appealing as it may sound, that story doesn’t hold up in reality. Sustainability is the mantra, but not at all the universal ambition the Indian shipbreaking industry claims it is. Money makes Alang go round, as Nitin Kanakiya said, and most yard owners are perfectly ready to sacrifice the environment, workers’ health and state coffers as part of that pursuit.

In February 2012, tax authorities cracked down on a number of ship recycling companies in Bhavnagar. According to an article in the TradeWinds shipping news publication, the operation was focused on Shree Ram, the Leela Group of Companies and Bansal Group, the three yards that are considered to have the best environmental practices. According to the TradeWinds story, the investigation produced evidence that the yards together failed to disclose an income of \$6.75 million.

To maximise profit, yard owners also work hand in glove with cash buyers. These are companies that buy the ships from their owners, pay them the agreed price up front and subsequently sell the vessels for scrap to the yards. The cash buyer scheme is a very non-transparent system primarily used for beach breaking yards in South Asia. Some yards have privileged relations with cash buyers. GMS, for instance, has very strong links to Leela. This does not surprise since GMS owner Anil Sharma is the brother of Komalkant Sharma, the Leela owner. Best Oasis is the cash buyer for the Alang yard Priya Blue although they also sell on ships to yards in Pakistan and Bangladesh. NKD is linked to Shree Ram but also resells to other South Asian scrap yards. Wirana has a privileged

relationship with Kalthia shipbreaking yard.

The companies that function as cash buyers often also operate in other economic sectors such as diamond cutting (GMS) and timber trade (ACE EXIM). They often rename and reflag the vessels they buy for scrapping in order to escape regulatory oversight, even though the rules are lax and inspections rare.

During their active life, most commercial ships operate under so-called flags of convenience, such as those of Liberia and Panama. This practice allows ship owners to dodge European regulations and national laws, disregard labour and environmental standards, and allows them to pay fewer taxes. A separate flagging-out cottage industry has developed for end-of-life vessels. The European Commission estimates that 40% of vessels make their final trip to a scrapping destination under the flags of states that are exceptionally bad at enforcing internationally agreed rules such as the Comoros, Palau, St Kitts and Nevis, and Tuvalu.

Reliable shipping databases put that figure at 50% and the real number is probably even higher as many flag changes are not necessarily officially registered, and the flag change may only surface in shipping databases at a later stage. This practice allows flag states to cash in on registration rights, while it relieves ship owners of a number of rules and responsibilities. Everybody counts their profits.

Few economic sectors are as deeply globalised as international shipping. Large companies are multinational by nature – they are engaged in international activities and often operate in international waters that are never the jurisdiction of a single nation state. The factors that make it a complex, global and hard-to-regulate industry do not cease to exist when a ship is decommissioned.

There are so many ways to steer clear of the rules and regulations that it comes as something of a surprise when owners are held accountable.

The Antwerp Port Authority did just that when it prohibited the *Global Spirit* and the *City of Antwerp* from leaving the port in 2014 and 2016 respectively over clear indications that the cargo vessels would be scrapped on South Asian beaches. The *City of Antwerp* ship was released after its Lebanese owner assured the port authorities that the ship would be repaired and further operationally used. The ship nevertheless did end up on an Indian beach, with no further legal action taken by European or international institutions. Such is the reality of regulation on the high seas and low tides.

NO SUCH THING AS IMPLICIT RECOGNITION

It became absolutely clear during my visit to Alang and Bhavnagar that the Indian shipbreaking yards wish to obtain EU SRR approval because they want to continue to be able to break vessels operating under an EU flag beyond 1 January 2019, when the new EU regulation entered into effect. Of course, not many ships are EU flagged and those that are can simply change flags. But failure to get a stamp of approval from EU officials would be a major setback and a clear indication that a yard's operations are not green. The yard owners claim that most of them already comply with the HKC rules and that all of Alang will have only sustainable yards soon. But even a quick visit to some of the supposedly leading yards reveals that those are far-fetched claims.

Out of some 150 shipbreaking yards in Alang, 13 applied for inclusion in the EU SRR list. We received 11 names from the European Commission – Priya Blue Industries Private Limited; Shree Ram Vessel Scrap Pvt. Ltd; Leela Ship Recycling Private Limited; RL Kalthia

Ship Breaking Private Limited; P. Rajesh Ship Breaking Pvt Ltd; Ghasiram Gokalchand Ship Breaking Yard; Ashwin Corporation; Alang Auto & General Engineering Company Private Limited; Y.S. Investments; R.K. Industries (Unit-II) LLP. JRD Industries Plot No. 30. Shubha Arya and Atam Manohav also applied, according to our information. Commission officials could not confirm this, probably because the yard owners didn't agree to have their names revealed.

The Commission sent an inspection team with experts from DNV GL, the classification society that developed from the merger of Det Norske Veritas and Germanischer Lloyd, to Alang in September. Two shipbreaking yards were inspected between September 23 and 28 – Priya Blue and Shree Ram (plots 78-81). The inspection team also met with the workers' union representative and visited the Waste Management Facility run by the Gujarat Maritime Board. Proper downstream waste management is one of the requirements for inclusion in the EU list.

One of the pages on the Shree Ram website includes a quote lifted from a TradeWinds article. "The European Commission has agreed to inspect Shree Ram Vessel Scrap in Alang, India, with a view to including it in its list of approved yards under Europe's Ship Recycling Regulation (SRR). The move is significant because it suggests the EC is ready to consider the most advanced Indian beaching yards as acceptable to scrap European-registered ships, having previously indicated such recyclers would be ruled out. Shree Ram, which has a Statement of Compliance with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships from ClassNK, had earlier submitted an application to be recognized under the SRR. Shree Ram's desktop application has now been approved by the EC, meaning in principle it accepts the yard is capable of demolishing ships in line with the standards outlined in the SRR."

Asked whether this assessment was correct, a Commission spokesperson told me it isn't. There is no guarantee that an inspected yard will also



© GO GREEN GO INDIA - Priya Blue yard in Alang, India 2018

be recognised as compliant and no such thing as implicit recognition, the official said. On the other hand, not every yard will receive a team of EU experts because several other steps first need to take place. A lot of paperwork must be filed, including a private certificate ascertaining that the yard in question would indeed fall within the standards set by the EU SRR. Those certificates are paid for by the companies themselves and are issued by the same companies that produce the HKC certificates – Class NK, Rina and IRClass, also known as the Indian Register of Shipping.

The European Commission spokesperson I interviewed did not expect a decision about the two inspected yards in Alang before the January 1 deadline. A first draft of the report, he said, would be ready by the end of October and sent to the two yards to give them a chance to clarify or discuss the findings, or to give their general feedback on the report. A final report will then

be made available to the EU member states. If the Commission officials consider that the yard complies with the EU requirements, they can propose inclusion in the EU list to the EC Ship Recycling Committee, which will then make a decision. If this final vote is positive, the yards are added to the EU list in the subsequent months.

All eyes on Europe

Written by **Ebe Daems**

European ship owners rarely face punishment when they send ships to South Asian beaching yards to be dismantled in dirty and dangerous conditions. Shipping companies that were until recently lauded for their responsible practices are moreover returning to the beaching yards, which they say have been upgraded and now allow safe and green dismantling.

In February 2016, the Belgian ship Mineral Water was dismantled at the infamous Bangladeshi beaching yard Kabir Steel. Beaching yards have been criticised for decades for their poor labour conditions and their negative environmental impact. Nevertheless, every year, 65 to 75% of end-of-life ships are dismantled at three beaches in India, Pakistan and Bangladesh.

ONE INDUSTRY, THREE FIGURES

80 percent

Every year 80% of the total gross tonnage (GT) of scrapped ships ends up on beaches. That corresponds to 65 to 75% of all end-of-life ships.

Multiply by four

According to World Bank figures, the number of recycled ships quadrupled over a two-year period, from 2006 to 2008. The number of ships recycled annually has increased since the economic crisis, largely because ship owners ordered more ships than they today have use for during the boom years before the crisis.

90 percent

Ninety percent of a ship consists of steel. In the recycling countries, the steel is used for construction. Steel and other recycling materials from the beaching yards provide a cheap supply of raw materials to build accommodation for these countries' fast-growing populations.

European ship owners routinely participate in these illegal practices, primarily because they are highly profitable and sanctions are rare.

The beaching yard Kabir Steel paid almost €6 million for the Mineral Water, a ship owned by Bocimar, a subsidiary of Belgium's largest shipping company CMB. Before the Mineral Water ended up in Bangladesh, Bocimar sold the ship to a cash buyer, a scrap dealer who then resells the ship to the recycling yard with a profit. Western Overseas, the Mineral Water's cash buyer, re-flagged the ship to the small South Pacific island nation Niue and renamed it Water. Flagging out is the standard procedure for most cash buyers. They usually pick a shipping registry known for its cheap registration, poor regulatory checks and low taxes.

Niue is also on the black list of flag states that don't respect international shipping conventions. Comoros and St Kitts and Nevis, both in the top three of the most popular flag states for end-of-life vessels, are also blacklisted. By changing the ship's name and flag and registering the ship under a letterbox company in a tax haven, the cash buyer tries to obscure

the ties to the previous ship owner. The ship owner can in turn place all responsibility with the cash buyer and claim it was the cash buyer's decision to dismantle the ship. CMB also claims to have duly adhered to all the applicable rules, but Antwerp's public prosecutor isn't so sure. It has opened an investigation to determine whether CMB and Bocimar purposefully circumvented European waste rules through the use of intermediaries.

TWO RARE VICTORIES

It's worth noting that the Mineral Water had been operating outside of Europe for a while. Under EU legislation, legal action can only be taken against a shipping company when one of its ships directly sails from a European port to a non-OECD country for dismantling. In the case of the Mineral Water, the local public prosecutor is investigating whether CMB and Bocimar violated the EU Waste Shipment Regulation, not because the ship left from the EU on its last voyage, but because it sailed under the Belgian flag.

This is the first time the rules have been interpreted in this way. Most national authorities



© STUDIO FASCHING - Chittagong, Bangladesh 2017

aren't quick to take legal action against shipping companies. As a result, most European ship owners can largely do as they please, especially when they hide their true plans for an old ship. They send out the ship for a last assignment outside of European waters and subsequently sell it to a cash buyer. Or, they purposely lie to the authorities about their real plans for a ship when departing from a European port. In such cases, it's usually very difficult to prove that a company intended to scrap a ship before it left the EU. Failing such evidence, charges cannot normally be brought against ship owners on the grounds that they sold a ship to a substandard recycling yard.

In another rare case of legal action by local authorities, a Rotterdam court found the Dutch shipping company SeaTrade guilty of having intended to sell four ships for scrapping in Alang and thus having violated the EU Waste Shipment Regulation. The prosecutor demanded six-month prison sentences, but because the case marked the first time that a European shipping company was prosecuted for exporting waste ships, the judge was lenient. Rather than being sentenced to prison time, the shipping company was given a heavy fine in March. Two of its board members were also forbidden from working for a shipping company as a director, commissioner, employee or adviser for a year and awarded €50,000 fines each.

For the first time, a European shipping company was held criminally liable for having sold vessels for scrap to substandard shipbreaking yards in India and Bangladesh where, the public prosecutor said, "current ship dismantling methods endanger the lives and health of workers and pollute the environment."

The SeaTrade ruling was hailed as a victory by NGOs campaigning for responsible ship recycling. "This ground-breaking judgement

sets a European-wide precedent for holding ship owners accountable for knowingly selling vessels, via cash buyers, for dirty and dangerous breaking in order to maximize profits," the NGO Shipbreaking Platform said in a statement.

Prosecutors were able to successfully bring charges against SeaTrade because, for once, there was enough evidence to prove that the ships were already destined for demolition while they were still sailing in Europe. They found an email exchange in which one of the defendants mulled how the shipping company might get the highest price for a ship but avoid all legal responsibility for its dismantling: "Is not ending up on the name and shame list worth 5 x 70k = 350k? Could it be an alternative to quickly change owner/name/flag, for example in the Persian Gulf before the ship sets sail to Alang? It should be a flag state which doesn't require inspections and whatsoever."

A LOOPHOLE FOR EVERY LEGISLATION

European owners are responsible for 40% of the GT of ships that end up on beaches every year. This makes the EU the largest single market delivering waste ships to South Asian beaching yards. The case of SeaTrade, the first shipping company to be brought to trial for what are essentially standard industry practices, highlights how flawed the current laws are.

The need for better legislation is understood by the countries that drafted the Basel Convention, the UN convention on which the EU Waste Shipment Regulation is itself based. In the early 2000s the signatories to the Basel Convention discussed how the loopholes in the convention might be closed several times. Some countries suggested that rather than considering the country from which a ship physically departs for demolition, the jurisdiction where the ship's beneficial owner is domiciled should be treated as the exporting state. Such a definition would

have offered a stronger legal foundation to bring charges against those truly responsible, but the convention was never amended in the end.

New legislation was however drafted – not by the Basel parties but by the International Maritime Organisation (IMO). In 2009, the London-based agency presented its Hong Kong Convention (HKC), under which ships can only be demolished at certified recycling facilities that are compliant with HKC requirements. Proponents of the document, which include signatories like Belgium as well as ship owners and cash buyers, rightly argue that only an international convention will bring about real change because such multilateral treaties apply to all ships.

NGOs, the European Commission and the Greens in the European Parliament on the other hand say that the HKC isn't strict enough. The HKC may end up legitimising and rubber-stamping substandard practices, said Nicola Mulinaris from the NGO Shipbreaking Platform. "The Hong Kong Convention is a very weak piece of legislation. It allows beaching" he said. "Scrapping a ship in the intertidal area, with two tides a day, isn't feasible and results in hazardous substances ending up in the water or the sand."

"Moreover, basic issues like labour rights and downstream waste management aren't addressed in the convention. Finally, the responsibility for enforcement lies with the flag states, such as Comoros and St Kitts and Nevis, and the recycling states, such as Bangladesh and Pakistan, states known for their poor enforcement of the law," Mulinaris said. For the NGO Shipbreaking Platform, the fact that some of the strongest HKC proponents are cash buyers should be seen as writing on the wall that the convention would allow them to continue their substandard, but profitable practices.

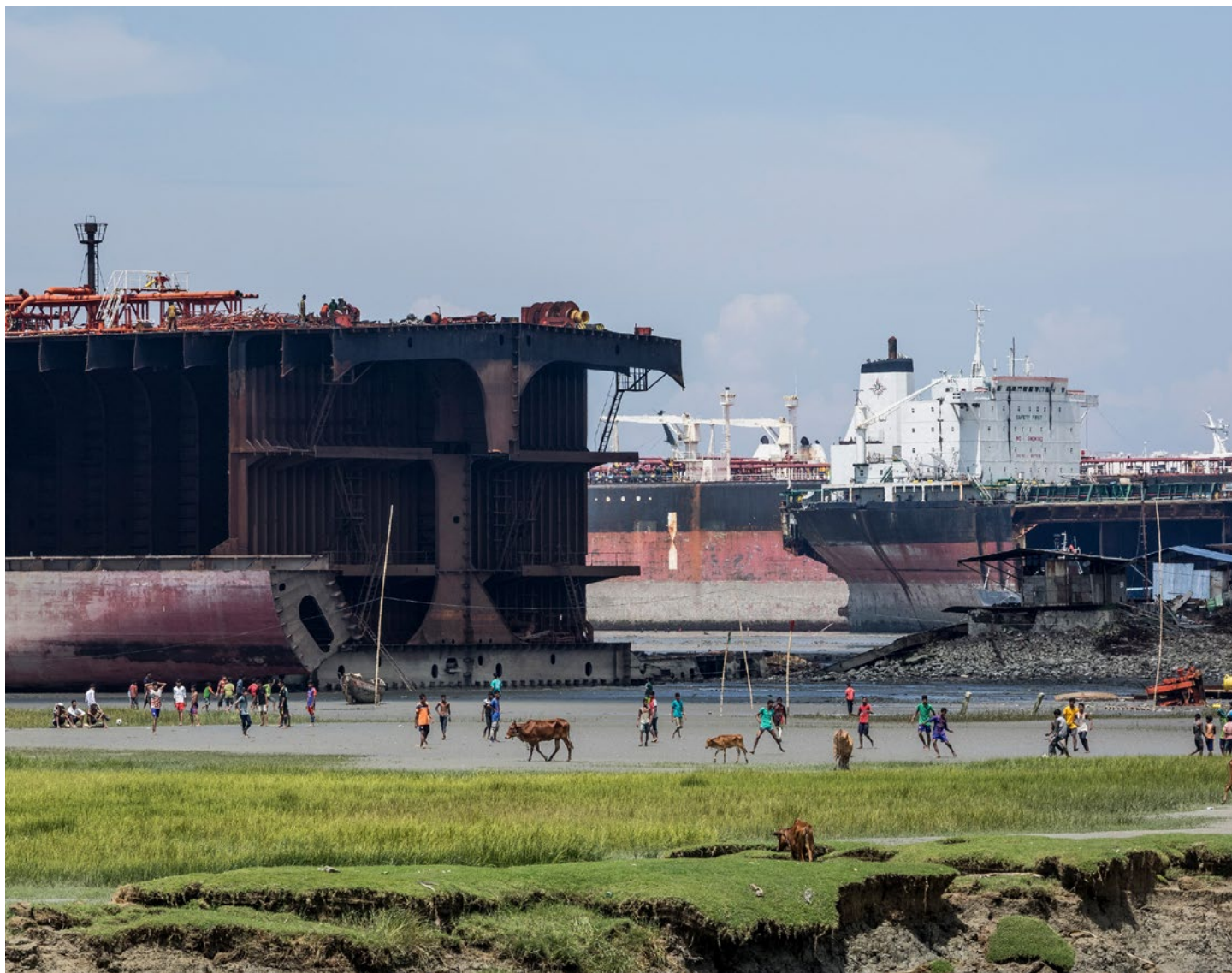
The lax standards of the Hong Kong Convention aren't surprising. "The vested interests in the IMO were very adamant that there was never going to be any outlawing of beaching in the HKC," said Robin Townsend of the marine consultancy Marprof. As ship recycling expert and representative of the International Association of Classification Societies (IACS), he helped draft the HKC.

The interests of the shipping industry carry a lot of weight at the IMO. After leaving his IMO post in 2013, Nikos Mikelis, the "godfather" of the Hong Kong Convention, started working as a consultant and non-executive director at GMS, one of the largest cash buyers and suppliers of waste ships to beaching yards. GMS has been fined over its practices in the past, and several national authorities are currently investigating whether the company illegally sold toxic waste ships to South Asian beaches. Countries with a large tonnage of ships registered under their flag also contribute more money to the IMO and have a louder say in the decision-making process to ratify conventions.

Ship owners and shipping companies shirk legal responsibility by registering their vessel under the flag of a country to which they have no ties. This is known as the flags-of-convenience system. As for the countries, they are eager to attract ships and do so by keeping corporate taxes low, and regulatory frameworks loose.

As previously explained, around 75% of all large commercial vessels fall under the regulatory control of countries like Panama, Liberia and the Marshall Islands as a result, when the real ship owners are headquartered in EU and East Asian countries. It follows that the flag states where the ships are registered have more power at the IMO than the countries where the actual ship owners are domiciled.

Recent reports from Transparency International



and Influence Map have moreover revealed that some flag states aren't represented by their national ministers at the IMO, but by the private companies that manage their shipping registries. This is for instance the case for the Marshall Islands. The end result is that industry stakeholders effectively decide the position of their national government when international legislation like the HKC is drafted. If the IMO gets a say, it seems unlikely that beaching yards will disappear anytime soon.

“WHY NOT MOVE THE ENTIRE INDUSTRY?”

India has tried to phase out beaching yards

since the late 1990s, when it launched a large-scale ship recycling project in Pipavav, less than a 100km from Alang. But the project failed because ship owners and cash buyers were able to make a bigger profit by staying at the beaching yards than by going to the Pipavav facility.

Still, there were some forward-thinking ship owners who didn't opt for beaching in spite of the price difference. As previously mentioned, the Danish company Maersk chose to responsibly dismantle its ships away from beaches until 2015, when it was confronted with financial losses and again started sending its

old ships to Alang to earn extra revenue. What Maersk did was choose a few beaching yards and push for the on-the-ground improvements it deemed necessary. According to the NGO Shipbreaking Platform, however, it makes no sense to try to improve a beaching yard. “It is undeniable that some breaking yards have improved and are comparatively better than other yards in India. But this is a dead end,” Mulinaris said. “A tidal beach remains a tidal beach. Instead of improving something that will never be able to meet international standards for the environmentally sound management of waste, stakeholders should shift the whole industry off the beach,” he said.

Townsend, the Marprof ship recycling expert, and Jim Heath, who spent years certifying recycling yards for the classification society Lloyds Register, agree that beaching is not the best option. “I think the fair thing to say is that a tidal mudflat is a very challenging place to try to organise an environmental beach,” Townsend said. “It’s not impossible, but it’s certainly a lot easier to start off with a concrete dry dock. That makes one wonder why there is this long-term allegiance to Alang.”

Townsend pointed out that there are plenty of downgraded, abandoned and upgradeable port facilities in southern India. “Why not just move the entire industry, which is a migrant industry anyway, there?” he asked. “That would require little infrastructure investment, while it’s a vast infrastructure investment to turn a tidal mudflat into a concrete, bunded, drained area along with permanent cranes and emergency exits.”

Heath noted that they still stood by alongsides and dry docks as the preferred methods. “However, we are supportive of improvements in Alang since we believe the industry there won’t disappear in the foreseeable future. Still, as Marprof, we don’t actively search for jobs

in India, Bangladesh or Pakistan,” he said. “If somebody wants to know where it’s still going wrong, we’ll tell them. We’re not likely to tell them they’re doing everything right. Which is different from a lot of the consultants who are perfectly happy to tell them it’s all great.”

GREENWASHING CERTIFICATES AND BEACHING 2.0

Those consultants, which include classification societies like Class NK in Japan, the Italy-based RINA and the Indian Register of Shipping, are eagerly handing out HKC certificates known as statements of compliance. Even though the HKC isn’t in force yet, a lucrative trade in statements of compliance with the convention has already emerged, one that amounts to greenwashing. A company like Maersk prides itself on exclusively working with recycling facilities that have a HKC Statement of Compliance, but such certificates have no legal validity.

“According to the Hong Kong Convention, there’s no clear requirement of what the facility should look like” said Heath, adding that the provisions are so vague that classification societies can interpret them however they want. “So you could have a yard where Maersk is working that has made genuine improvements, while a couple of doors down there might be someone with the exact same certificate, but they’ve just paid for the certificate and they’re not doing it properly at all. As a ship owner there’s no way you could rely on the Hong Kong certificates. You have to look into it deeper,” he explained.

This raises the question of what will happen to the supposedly HKC-compliant yards, once the convention enters into force. It is possible that they will go through a rigorous inspection process, but there are real fears that this won’t happen and that all the superficially certified yards will become compliant with the HKC

requirements in one fell swoop. One of the facilities that has such a HKC certificate is the Bangladeshi beaching yard PHP. This yard has no disposal sites for hazardous waste.

EU lawmakers didn't like the HKC, which they viewed as too lax. Nor did they want to wait until the convention entered into force. So EU lawmakers drafted the EU Ship Recycling Regulation (SRR), which will become applicable 1 January 2019. One of its key provisions is that EU-flagged ships can only be dismantled in recycling facilities that are on the European list of SRR-compliant facilities.

While environmental groups say the stricter SRR requirements will amount to a ban on beaching, industry stakeholders take a different view. They say that the forthcoming regulation will make a new, improved form of beaching possible, thereby completely ignoring the fact that the SRR came into being because EU lawmakers deemed the Hong Kong Convention to be too lax.

Which of the two camps is right is soon to be revealed. The European Commission is expected to publish its evaluation of the two candidate recycling yards inspected by experts in Alang in September 2018. With the publication of those reviews fast approaching, various pressure groups are ratcheting up their efforts to sway EU lawmakers to take their perspective.

A small nation makes a big lobbying push

Written by **Ebe Daems**

The global top three destinations for ship dismantling are three beaches in India, Pakistan and Bangladesh. About 40% of the GT of ships that end up in these yards are European owned. It is no secret that the beaching yards dismantle these vessels in conditions that are hazardous to both humans and the environment. The EU has decided that European flagged ships should only be dismantled in recycling yards that comply with EU requirements. From January 2019 onwards, when the SRR became applicable, these compliant yards will be published in an EU list of approved ship recycling facilities.

The European Community of Shipowners' Associations (ECSA) wants the European Commission to add the leading beaching

yards in South Asia to the EU list. European ship owners after all can receive much more money for their end-of-life ships at recycling yards in India, Pakistan and Bangladesh, than at European recycling facilities.

The 21 recycling facilities currently on the EU list of approved ship recycling yards are all located in the EU. Twenty-six yards in the US, China, India and Turkey have also applied for inclusion in the list. The European Commission recently proposed including five additional recycling yards, one of which is in the US and two in Turkey. As previously mentioned, the Commission also inspected two beaching facilities in Alang in September and it will soon disclose whether those yards are compliant with the SRR standards.

Not everyone is happy about this stricter ship recycling legislation. To better understand ongoing lobbying efforts, I asked the European Commission to send us any and all official letters on the SRR sent by EU ministers to European Commissioner for Environment, Maritime Affairs and Fisheries Karmenu Vella in the past five years.

The letters I received back revealed that Belgium is the only country that has officially asked the European Commission to postpone the new ship recycling rules and that the liberal party Open VLD led the charge.

The documentation released to us comprised six letters to Vella – three from Belgium and one from Greece, Denmark and Cyprus each. The six letters either urged the European Commissioner to postpone the application date of the SRR, or to lower the assessment standards for non-EU recycling yards.

In her letter to Vella, regional Brussels environment minister Céline Frémault argued that beaching yards shouldn't be excluded from the European list by definition and that the specifics of each recycling country should be taken into account when assessing the yards. Vella replied that it wouldn't be legal to consider the specifics of a recycling state when assessing an application for inclusion in the list.

The two other Belgian letters were sent by Philippe De Backer, federal state secretary for the North Sea, and sought to convince Vella that Europe lacks recycling capacity. De Backer's first letter, dated May 2018, highlighted "the grave concern" on the part of European ship owners, and Belgian ship owners in particular, about the SRR current state of affairs. If the yards on the European list have insufficient capacity, De Backer warns, ships will have no other option but to circumvent the regulation by changing flags so they can dismantle their ship elsewhere.

"For European member states it will effectively not be achievable to apply the SRR properly," De Backer writes and he goes on to ask the European Commission to postpone the regulation's application date unless more capacity for dismantling in Europe is rapidly created. After Vella replies that postponement is not an option, De Backer sends a second letter in July, repeating his request to delay the regulation's entry into force. This time he justifies his demand with both the argument of the perceived lack of European recycling capacity and China's declaration earlier in 2018 that it would stop recycling foreign ships from 2019 onwards.

On 7 June 2018, a week after De Backer sent his first letter, Open VLD lawmaker and MEP Hilde Vautmans submits a written parliamentary question that uses language that is almost identical to that of De Backer's letter. "As from 2019, it will no longer be possible for shipowners to recycle their ships under European flags. They will have to flag out in order to recycle, and will therefore have to sell their ships below the market value," she writes. She subsequently asks Vella to postpone the legislation's application date if additional facilities are not added to the list in the short term.

The SRR doesn't fit with the issues Vautmans usually focuses on as a lawmaker. Her parliamentary question instead seems to be part of a multi-front lobbying attempt by Open VLD. Unsurprisingly, Open VLD lawmakers have strong ties to Belgian ship owners. Guy Verhofstadt, a leading figure in the party, for example received €60,000 per year to sit on the board of the shipping company Exmar between 2010 and 2016. The company is owned by the Saverys family, which also runs CMB, Belgium's largest shipping company. Antwerp's public prosecutor is currently investigating whether one of CMB's subsidiaries used intermediaries to deliberately circumvent European ship

dismantling rules and sell a ship to a substandard beaching yard in Bangladesh.

MIXED-UP PRIORITIES?

According to several Belgian and EU sources, Gudrun Janssens has played a key role in Belgium's efforts to obtain EU approval for Indian beaching facilities. For many years, Janssens was in charge of ship recycling policies at the regional Flemish Public Waste Materials Agency (OVAM). OVAM is a Flemish administration, considered to be competent actor for Belgium for matters relating to ship recycling. The agency issues environmental permits to Belgian recycling facilities, approves them for inclusion in the European list, and is also responsible for enforcing European legislation on ship recycling.

OVAM represents Belgium in ship recycling discussions at the EU level and consults with the Belgian regions to draft the Belgian position on ship recycling matters in the Coordination Committee for International Environmental Policy (CCIEP). Janssens drew a great deal of attention with her points of view.

Despite OVAM's clear mission to promote ecological and environmental awareness, Janssens wrote a vision paper for the agency in which she argued that the efforts to improve beaching yards in South Asia should be supported. She was referring to changes aimed at upgrading existing beaching yards – not the construction of new facilities or the revamp of existing infrastructure away from beaches. Janssens also noted that European recyclers should focus on their natural markets, so smaller inland vessels.

European recyclers of course hope that the new European list will result in more orders for them and obviously don't want to heed the approach suggested by Janssens. "With Galloo,

OVAM has the largest European recycling yard in its own country, yet they try to get beaching yards in India EU-approved. I find that hard to understand," said Peter Wyntin, chairman of the European Ship Recyclers Group and head of ship recycling at Galloo, a recycling yard in the Belgian city of Ghent. "Every European yard could easily double or even triple its capacity, but the ships aren't available because most of them depart illegally for the Far East," he said.

I asked Janssens why she so ardently continued to defend beaching yards in India in a phone-interview. She replied that the reality was more nuanced than that. "The Belgian position was aimed at putting an end to substandard practices, from beaching yards to dry docks, because bad practices exist for every recycling method. So Belgium wanted to get a realistic legislation which would allow for recycling outside the EU, but with improved facilities meeting the requirements."

But an email from Janssens to the European Commission and EU member states shows that OVAM has tried to downplay Galloo's true recycling capacity. Certain ships such as naval ships, inland ships and smaller vessels below 500 GT, fall outside the scope of international and European legislation like the SRR and the HKC. The likelihood that a pleasure craft or fishing boat travels from Europe to South Asia is after all minimal. According to Janssens this consequently means that the recycling capacity of European yards is in reality even lower than the historical capacity mentioned in the EU list, that is, the number of ships effectively recycled by a given yard.

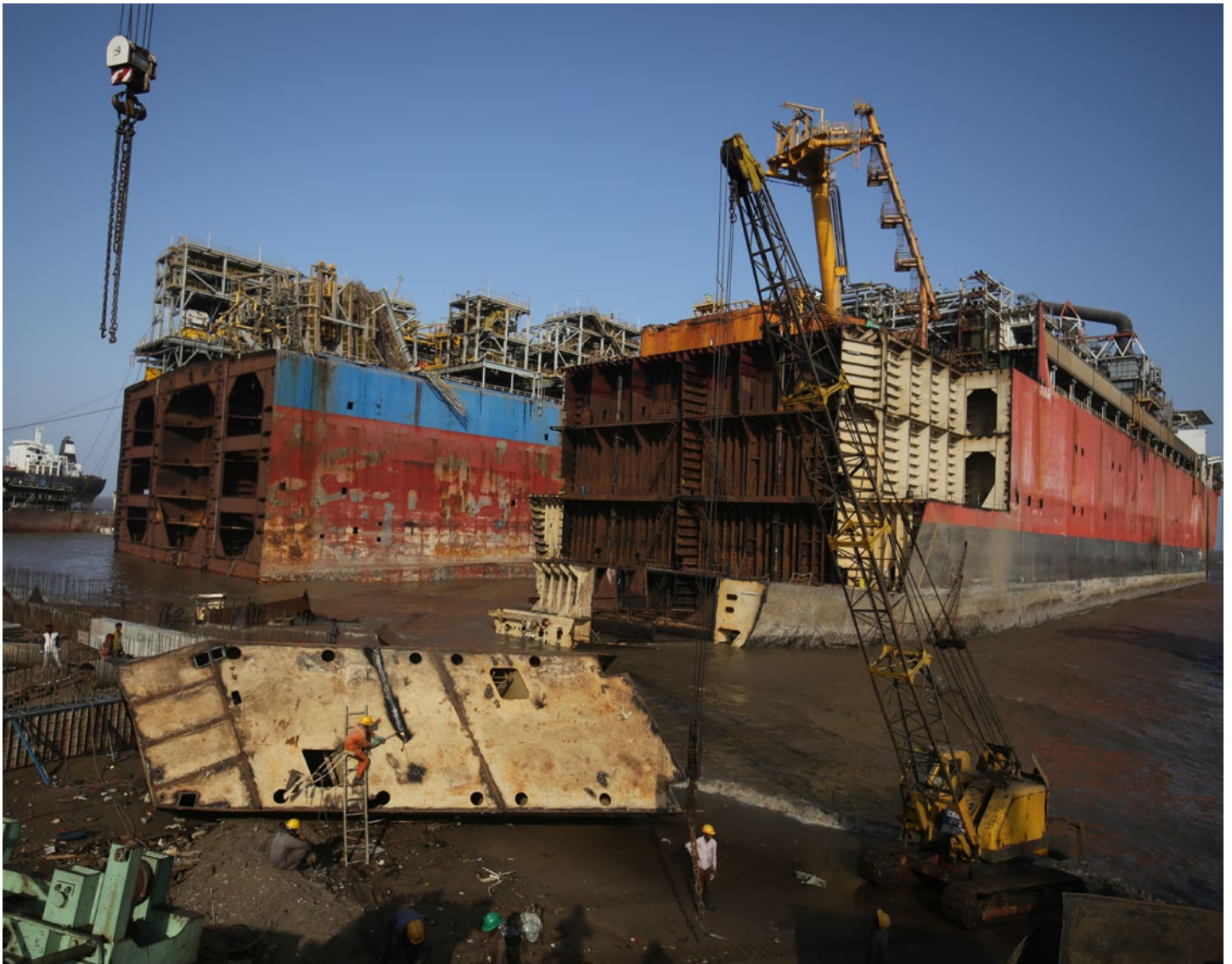
THE REVOLVING DOOR PHENOMENON

But Janssens' argument is a distortion of the on-the-ground realities. The Flows port news website has for instance repeatedly reported that European recycling yards are operating

below capacity. Representing European recycling capacity as gravely insufficient plays into the hands of the shipping industry, which want to get the yards that are more profitable for ship owners on the list. It is telling that Janssens left OVAM for a post at ECSA, the European ship owners' interest group, in May 2018 in what seems to be a typical example of the revolving door phenomenon.

© AMIT DAVE - Alang, India 2018

In an email exchange, the Belgian Federal Public Service Mobility also told us that it is concerned about the current EU recycling capacity and that it supports the HKC first and foremost. "The only real global solution is the entry into force



of the Hong Kong Convention. International rules applying to all ships are the only solution to address the ship recycling problem,” said spokesperson Sven Heyndrickx. “It also makes the enforcement by states a lot easier if uniform rules exist for all ships. That’s why Belgium has ratified the Hong Kong Convention. That’s also the message Belgium keeps on propagating at the different international and European forums!”

When the SRR was first discussed by EU lawmakers, it was with the explicit intention of prohibiting beaching. Such a blanket rule would in effect have made it impossible for upgraded beaching yards to ever be included in the European list. The legislation’s final text, however, no longer makes any mention of beaching. Still, the SRR outlines strict requirements that will be hard for beaching yards to fulfil.

MEP Carl Schlyter, the SRR rapporteur who helped draft the legislation, has said that the SRR effectively prohibits beaching, even though this is not explicitly mentioned in its text. “The new law will make it compulsory for ships to be recycled from built structures only and in such

a way that all hazardous materials are fully contained. As this is impossible on a beach, the practice of beaching is de facto forbidden,” Schlyter said after the SRR was passed in 2013. Certain EU member states and ship owners on the other hand maintain that the SRR allows for an improved form of beaching. This stance is a cause of frustration for Wyntin, the European Ship Recyclers Group chairman. “I always tell the European ministries of Environment – ‘If I applied for a permit to start a recycling yard like those found in India, on the beach of Ostend, I would not get it.’”

“I don’t think any European ministry would hand out a permit for a beaching yard in Europe, right?” he said. “Well then, why allow it in India? It’s not acceptable; it’s unimaginable.”

© 2014 Pearson Education, Inc. or its affiliate(s). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without prior written permission from Pearson Education, Inc. or its affiliate(s).

GLOSSARY

BEACHING

Beaching is the process in which a ship is laid on a tidal mudflat. The vessel is grounded deliberately during high tide and breaking operations usually take place during low tide when the vessel is not submerged by the sea. 70% of ships are scrapped using the beaching method as practiced in South Asia. As cutting operations take place in the intertidal area, pollutants are inevitably discharged into the environment and washed away by the tide. There are no means of full containment or remediation. The beaching method is strongly criticised for its unsafe working conditions and the environmental harm it causes to fragile coastal ecosystems and surrounding communities.

BENEFICIAL OWNER

The “real” owner of a vessel who is responsible for its recycling. In legal terms, the beneficial owner is deemed to be the ultimate owning entity or representative thereof (whether an individual, company, group or organisation). It is the entity that benefits from the rent and/or sale of the asset and that takes the commercial decision to scrap a ship.

CASH BUYER

A cash buyer is a company specialised in the trade of end-of-life vessels to beaching yards. Cash buyers pay ship owners up-front before the ship reaches its final destination and is dismantled. Cash buyers sell ships to shipbreakers that can offer the highest price and are notorious for hiding business dealings and dodging waste export laws by re-registering vessels under flags of convenience and anonymous post box companies.

COMMERCIAL OPERATOR

The third party managing a ship's daily operation. These companies do not own the vessel and usually do not take decisions regarding the sale of a vessel.

END-OF-LIFE-SHIP

A ship that has reached the end of its operational life and is ready to be scrapped.

FLAGS OF CONVENIENCE

To avoid responsibility and exploit loopholes in international legislation, the shipping industry has recourse to so-called “flags of convenience”, which see ship owners registering their vessel under the flag of a country that has nothing to do with them or their company. Many countries offer this kind of low-cost registration with the promise of little regulatory control and reduced tax rates.

FLAG STATE

The jurisdiction under whose laws a vessel is registered or licensed, and that is deemed the nationality of the vessel. The flag state has the authority and responsibility to enforce regulations over vessels registered under its flag, including those relating to inspection, certification and the issuance of safety and pollution prevention documents.

GT

Gross tonnage (GT) is a nonlinear measure of a ship’s overall internal volume.

HISTORICAL CAPACITY

The maximum tonnage (i.e. LDT) recycled by a facility in the past 10 years.

INTERTIDAL BEACH/ZONE/AREA

The area that is above water at low tide and underwater at high tide. In other words, it is the area between tide marks.

LDT

Light displacement tonnage (LDT) is defined as the weight of the ship with all its permanent equipment and usually the weight of permanent ballast and water used to operate steam machinery, but excluding the weight of cargo, fuel, water, ballast, stores, passengers and crew.

REGISTERED OWNER

The company or individual to whom the ship's legal title of ownership has been registered. This is where “open registry”, “paper” or “name-plate” companies often come in, with ships being registered in countries with low or zero taxes on profits realised from the trading of ships or with lax requirements concerning manning or maintenance. It is common for the registered owner to be a so-called one-ship-company, or a company that owns only one ship.

STATEMENTS OF COMPLIANCE WITH THE HONG KONG CONVENTION

Statements of compliance with the Hong Kong Convention are business-to-business agreements between yard owners and classification societies acting as private consultants rather than as recognised organisations (ROs) on behalf of states. These privately issued statements are purchased by the yards and assess on a check-list basis whether facility is able to comply with the Hong Kong Convention's requirements as interpreted by the consultant. There are reportedly now 76 yards with a Statements of Compliance with the Hong Kong Convention in Alang, India, up from four yards in 2015. Italian classification society RINA was the first, and so far only, to have issued a Statement of Compliance to a yard on the beach of Chittagong, Bangladesh.

THEORETICAL CAPACITY

A yard's real recycling capacity. It is the tonnage (i.e. LDT) a facility is actually licensed to handle.

TO FLAG OUT

To change a ship's flag. An end-of-life sale with the help of a cash buyer usually involves a change of flag to one of the typical last-voyage flags. These include registries of jurisdictions like Tuvalu, Comoros, Palau or St Kitts and Nevis, which offer special registration discounts and little oversight.

A BRIEF OVERVIEW OF SHIP RECYCLING LEGISLATION

Basel Convention, 1992 – in force

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal enters into force to prevent industrialised countries from dumping their hazardous waste in third world countries
- A ship becomes waste when there is intent to dispose it (and, as the law says, “at the same time it may be defined as a ship under other international rules”, so that maritime law is abided on the last voyage of the “moving” waste)
- Ratified by 186 countries and the EU

Basel Ban Amendment, 1995 – not in force

- The rules are sharpened to introduce a complete prohibition on the export of hazardous waste from developed countries – predominantly OECD countries – to developing countries
- Not in force due to insufficient number of ratifications

Waste Shipment Regulation (WSR), 2006 – in force

- European Union regulation
- The Basel Convention and Basel Ban Amendment translated into EU law: a full prohibition of the export of hazardous waste from EU countries to non-OECD countries
- The country the ship physically departs from is considered to be the exporting state, regardless of the ship's flag
- Basel Ban Amendment is de facto in force in EU countries
- Ship owners easily circumvent this Regulation by not disclosing their intention to scrap a ship when in European waters.

Hong Kong Convention (HKC), 2009, not in force

- International Maritime Organisation (IMO) Convention
- Only applies to ships above 500 GT. Inland vessels, war ships, naval ships and other ships exclusively used by governments for non-commercial purposes are excluded from the scope of the Convention
- Ships under the flag of a party to the HKC can only be dismantled in certified recycling facilities compliant with the HKC criteria
- Critics have denounced the requirements for recycling yards as weak because the Convention allows beaching and doesn't provide sufficient safeguards to limit damage to the environment and workers' health and safety
- Only six countries have to date ratified the Convention, so it's not yet in force
- The convention enters into force when three conditions are met:
 1. At least 15 countries have ratified the convention
 2. The combined merchant fleets of those states constitute no less than 40% of the gross tonnage of the world's merchant shipping
 3. The combined maximum annual ship recycling volume of those states during the preceding 10 years constitutes no less than 3% of the gross tonnage of the combined merchant shipping of the same states
- Once in force, the convention can be circumvented by registering a ship in a country that is not party to the convention

Ship Recycling Regulation (SRR), 2013, in force

- European Union regulation applying to all EU-flagged ships above 500 GT, except inland vessels, war ships, naval vessels or other government owned ships that are only used for non-commercial purposes
- EU-flagged ships can only go for dismantling to EU-listed recycling yards
- So far 23 European recycling facilities, two Turkish and one in the U.S. feature on the list
- Recycling facilities in EU countries are automatically included in the list upon authorisation by their respective governments.
- Non-EU facilities send an application file including the required documentation and certification to the European Commission. The European Commission revises the application and provides the facility with recommendations for improvement, if necessary. The Commission desk assessment is followed by an on the ground audit of the facility by the Commission and appointed experts. If the recycling facility effectively complies with European requirements, it is presented to the Member States for inclusion in the European list
- The regulation can be circumvented by registering the ship under a non-EU flag

the 1990s, the number of people in the world who are under 15 years of age has increased from 1.1 billion to 1.5 billion, and the number of people aged 65 and over has increased from 0.2 billion to 0.4 billion (United Nations, 2002). The number of people aged 65 and over is projected to increase to 0.8 billion by 2050 (United Nations, 2002).

There is a growing awareness of the need to address the needs of older people in the workplace. The World Health Organization (WHO) has identified the need for a 'healthy ageing' approach to the workplace (WHO, 2002). The WHO defines 'healthy ageing' as 'the process of developing and maintaining the functional ability that enables older people to live the lives they want' (WHO, 2002, p. 1). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).

The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002). The WHO has identified five domains of functional ability: physical, mental, social, emotional, and financial (WHO, 2002).



Published by

