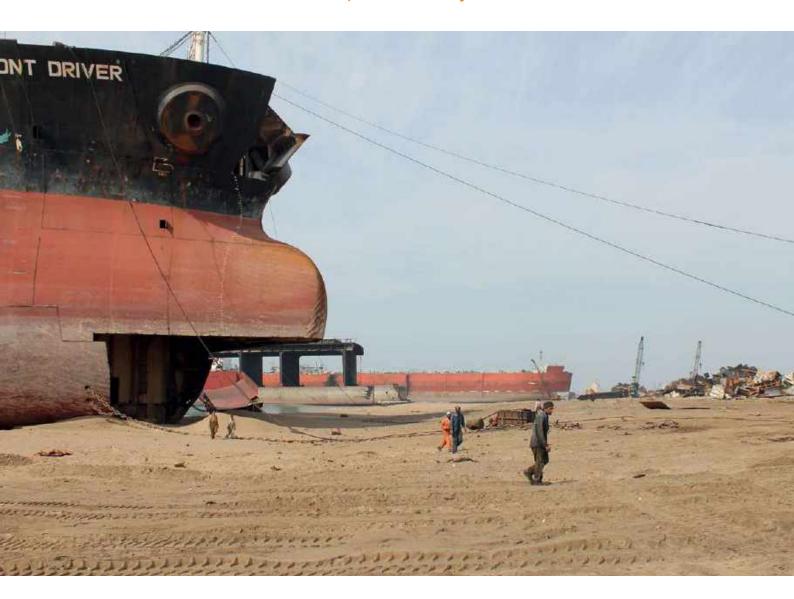




The Way Forward for a Green Ship Recycling Industry - Environmental, Health and Safety Conditions



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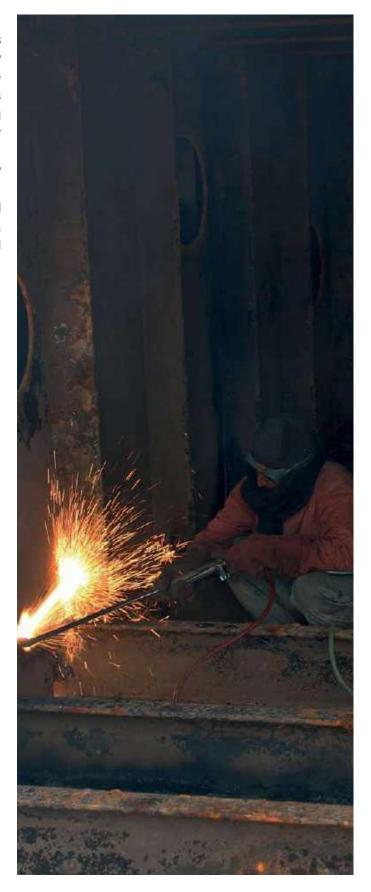
#### **PHOTOS**

NGO Shipbreaking Platform 2012 and 2013



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### **FOREWORD**

Shipbreaking is a hazardous industry for both workers and the environment. Despite the fact that Pakistan is one of the world's largest shipbreaking countries - currently ranking fourth in the annually scrapped volume both in terms of scrapped tonnage and in number of ships - so far only little attention has been given to the sector, both by the government as well as civil society. In spite of the dangers of shipbreaking, workers in Pakistan are still not adequately protected and trained to reduce the risks of associated hazards. The industry is shaken by frequent accidents that injure, maim and kill workers. Hazardous wastes such as oil residues and toxic paints are released on the beach where the ship is broken, and the hazardous wastes that are recovered from the ships are not handled, stored and disposed of properly, but dumped around the shipbreaking yards or re-sold on the local market. Due to the lack of adequate technology and equipment as well as deficient law enforcement, proper waste handling procedures are not followed. So far, the sector can neither prevent pollution and the distribution of hazardous materials into the local market nor mitigate the risks of accidents and occupational diseases.

Although most ships are dismantled in countries far away from the head-quarters of the large ship-owning companies, the primary responsibility for clean and safe ship recycling lies with the ship owners who have benefited economically from the operation of their vessels over the years. By selling an end-of-life vessel to South Asia companies obtain the highest price for their ships as they do not have to take into account the real costs of clean and safe recycling, but can externalise costs to countries where shipbreaking is cheap not only due to low labour costs, but also due to a lack of environmental standards, no proper waste management and inadequate health and safety requirements for the workforce.

After more than 15 years of discussion on the international level on necessary steps for safe and clean shipbreaking, the expertise has long been available to change the current practices in South Asia. The Sustainable Development Policy Institute (SDPI) and the NGO Shipbreaking Platform call with this report on the Pakistani authorities together with the local shipbreaking industry— in a joint effort with international organisations—to urgently initiate the change needed to turn the industry into a safe and "green" sector. In order to accomplish this goal, the shipbreaking industry needs to move its activities from breaking ships directly on the beaches to structures that allow for the full containment of pollutants, proper handling of hazardous wastes, and the safe use of heavy lifting equipment and the rapid access of emergency response in case of accidents.

Pakistan is State party to the Basel Convention¹ and must therefore ensure the environmentally sound management of hazardous wastes if it allows for the import of end-of-life vessels. Moreover, new legislation such as the EU Regulation on Ship Recycling, which will be applicable within five years, and the Hong Kong Convention², which has not yet entered into force, will demand substantial improvements if the sector in Pakistan wants to compete with countries offering safe and "green" ship recycling. The pressure on governments in ship-owning countries, for instance in the European Union, as well as on the shipping industry, to ensure that end-of-life vessels are recycled in compliance with international standards, is constantly growing. More and more ship owners seek clean and safe solutions already, and a competitive ship recycling industry must therefore be based on high standards of environmental protection and workers' safety.

This study presents a short overview of the economic conditions and the international and domestic legal framework according to which the Pakistani shipbreaking sector needs to operate, and provides information on the current conditions in the shipbreaking yards in Pakistan based on a survey conducted amongst workers, on yard observations, and during stakeholder consultations. In publishing this paper, the NGO Shipbreaking Platform and its member organisation in Pakistan, the Sustainable Development Policy Institute (SDPI), seek to contribute to the discussion on how to change shipbreaking practices in Pakistan so that they become clean and safe, and provide research-based policy recommendations to that end.

We hope that our recommendations will reach out to decision-makers in Pakistan, in Europe and beyond, and that it will convince more and more stakeholders of the necessity and the economic benefit of reducing the risks and controversy associated with shipbreaking on tidal beaches in South Asia. Higher standards will be required to maintain the viability and sustainability of the sector in Pakistan, and the sooner the industry starts to take the necessary steps, the easier the transition will be.

#### Patrizia Heidegger

Executive Director, NGO Shipbreaking Platform

<sup>1.</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

 $<sup>\</sup>hbox{2. Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships.}\\$ 

### **ACKNOWLEDGMENT**

SDPI is mindful of the fact that the shipbreaking industry in developing countries has various social and environmental implications, especially as ships contain hazardous materials in their structure. Under SDPI's Environment Unit, the Sustainable Shipbreaking Initiative (SSI) aims to explore and understand the impact of Pakistan's shipbreaking industry with a view to preparing policy recommendations to address the situation. The research work for this position paper would not have been possible without the support of all stakeholders and partners of the SSI.

Let me take this opportunity to thank the NGO Shipbreaking Platform for its committed support. Furthermore, we appreciate the cooperation of the National Trade Union Federation of Pakistan (NTUF) and the Ship Breaking Labour Union Gadani, the Pakistan Ship Breakers Association (PSBA), the Balochistan Development Authority (BDA), the Balochistan Environmental Protection Agency (BEPA), as well as ConsTech (Pvt.) Ltd. for their support in the field survey and the consultation process for this paper.

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### Dr. Abid Qaiyum Suleri

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### **ACRONYMS**

BCBasel Convention
BDA Balochistan Development Authority
BEPABalochistan Environmental Protection Agency
DWT Dead Weight Tonnage
EC European Commission
EHS Environment, Health, and Safety
ESMEnvironmentally Sound Management (of hazardous waste
EU European Unior
FIDH International Federation for Human Rights
FOCFlag of Convenience
GEFGlobal Environment Facility
GMB Gujarat Maritime Board
GoBGovernment of Bangladesh
GPCB Gujarat Pollution Control Board
GTGross Tonnage
HKCHong Kong Convention
HM Hazardous Materials
HPC High Power Committee appointed by the Supreme Court of India
IHM
IEE
ILOInternational Labour Organization
ISOInternational Organization for Standardization
IMCInter-Ministerial Committee appointed
by the Supreme Court of India
IMOInternational Maritime Organization
JWG Joint Working Group of Basel Convention, ILO and IMC
LDT Light Displacement Tor
LPGLiquefied Petroleum Gas
MARPOLInternational Convention
for the Prevention of Pollution from Ships

MEPC	Marine Environment Protection Committee
МоЕ	Ministry of Environment (Pakistan)
VGO	Non-Governmental Organization
VOC	No Objection Certificate
VSP	NGO Shipbreaking Platform
NTUF	National Trade Union Federation
ODS	Ozone-Depleting Substance
OHS	Occupational Health and Safety
OHSAS	Occupational Health and Safety Assessment Series
PAH	Polyaromatic Hydrocarbons
PBB	Polybrominated Biphenyl
PCB	Polychlorinated Biphenyl
PIC	Prior Informed Consent under the Basel Convention
PPE	Personal Protective Equipment
PSBA	Pakistan Shipbreakers' Association
RC	Rotterdam Convention
	Secretariat of the Basel Convention
SC	Stockholm Convention
SDPI	Sustainable Development Policy Institute,
	Islamabad-based think tank
SOP	Standard Operating Procedures
JAE	
SBRI	Ship Breaking and Recycling Industry
TBT	Tributyltin
JNDP	United Nations Development Programme
JNEP	United Nations Environment Programme
JNIDO	United Nations Industrial Development Organization
WSR	European Waste Shipment Regulation

### **EXECUTIVE SUMMARY**

This study first analyses the global economic and legal framework in which the shipbreaking industry in Pakistan is embedded and sheds light on the linkages of the sector to the global maritime industry and its ship recycling practices. It then presents the current conditions in the shipbreaking yards in Gadani, Pakistan, based on information retrieved during on-site visits and observations of the yards, as well as a survey conducted amongst approximately 5% of the workers representing all active yards with a focus on working conditions and the handling of hazardous materials and pollutants. Finally, the study proposes a way forward for a clean and safe ship recycling industry in Pakistan. The policy recommendations are addressed to all relevant stakeholders and are underpinned by the analysis of the current situation.

Whereas this study does not focus on the role of ship owners, it is understood that ship-owning companies who sell their end-of-life vessels for dismantling have the responsibility to ensure clean and safe recycling, even if they do not directly deal with the ship recycling facility and use intermediaries. They need to provide all the relevant information regarding their ship, including an Inventory of Hazardous Materials (IHM) which identifies, localises and quantifies the amount of hazardous substances on board. Moreover, they need to make sure that their vessel is not sent to a shipbreaking yard that does not meet the requirements of clean and safe recycling.

The Pakistani shipbreaking sector is covered by international environmental and waste trade laws, first and foremost the Basel Convention. As a State party to the Convention, Pakistan has to ensure that its shipbreaking yards guarantee the Environmentally Sound Management (ESM) of hazardous wastes, as laid down in the Basel Convention and the Technical Guidelines<sup>3</sup>. With regards to workers' rights, Pakistan needs to implement the ILO recommendations relevant for the sector and take into account the ILO Guidelines on health and safety in shipbreaking<sup>4</sup>, besides being bound by the relevant general human rights instruments it is party to, most notably the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights.

Moreover, the Hong Kong Convention prescribes the authorisation of facilities, requirements for their operation as well as a Ship Recycling Plan for every vessel. Pakistan should seek early compliance with the provisions under the Hong Kong Convention, which need to be combined with the already legally binding obligations under the Basel Convention. Also, the

European Union (EU) has recently adopted a Regulation on Ship Recycling which will oblige EU-flagged vessels to be dismantled only in compliant facilities. Pakistani yards need to move their operations off the beach and fundamentally upgrade both occupational work and safety standards as well as downstream waste management to meet these standards and thus be allowed to dismantle vessels flying the flag of an EU Member State in the future.

In order to comply with its current and future obligations, such as the Hong Kong Convention and the EU Ship Recycling Regulation, the shipbreaking industry in Pakistan needs to adopt more advanced methods, and move its activities from the beaches to purposely-built facilities that allow for the full containment of pollutants, proper handling of hazardous wastes, the safe use of heavy lifting equipment and the rapid access of emergency response in case of accidents. Detailed guidance has been provided, amongst others, by the aforementioned Basel and ILO Guidelines as well as recent studies on compliant facilities by the Secretariat of the Basel Convention (SBC).

The findings are based on desk research, field visits to the shipbreaking yards, interviews with workers and stakeholder consultations, which were accomplished between September and December 2012 and were supplemented by a last field visit and further consultations in October 2013. They show a deeply unsatisfactory picture of workers' rights, notably health and safety rights, waste handling, including storage and disposal, environmental impacts and compliance with legislation in place.

#### **MAIN FINDINGS**

#### **GENERAL**

(1) During the period of the study, 68 plots were operational in the Gadani shipbreaking yards which are run by 38 economic operators. A workforce of 12,000 to 15,000 workers is estimated for the overall operations in the year 2012 for the dismantling of 133 ships (figure of the Pakistan Ship Breakers' Association). SDPI estimates that a maximum of 850,000 people – including workers and family members and including downstream industries such as re-rolling mills – depend directly or indirectly on the sector.

(2) The conditions in Gadani are somewhat more favourable than shipbreaking on mudflats as practised in Bangladesh due to a relatively high level of mechanisation and a dry working environment for the workers as the tidal range is very small. There is a complete lack of hazardous waste management in the yards as well as non-compliance with occupational health and safety standards, workers' training and general awareness about the dangers posed by shipbreaking. All dismantling takes place directly on the beach without enough measures for containment and oil spill prevention. There are no impermeable floors and working areas with drainage systems. The general infrastructure in the area is deficient with unpaved roads, no steady electricity supply and no public supply of safe drinking water.

(3) Workers' rights are not adequately protected, notably health and safety rights, the freedom of association, workers' welfare and benefits, and contractual rights.

### ENFORCEMENT OF THE LAW, AUTHORISATION AND CERTIFICATION

- (4) Pakistan has ratified the Basel Convention (BC); however, it is not enforced nor fully reflected in domestic legislation. The import of end-of-life vessels does not comply with the Prior Informed Consent (PIC) procedure under the BC. The shipbreaking yards do not practise Environmentally Sound Management (ESM) of waste as prescribed by the BC. Moreover, there is no sector-specific regulation for the industry in order to comply with the BC and the future Hong Kong Convention.
- (5) Generally, the enforcement of the laws already in place, such as the Pakistan Environmental Protection Act 1997, the Balochistan Environmental Protection Act 2012, the Factories Act 1934 and the Pakistan Penal Code is weak or non-existent. Certain legal provisions are implemented partially, for instance with regards to working hours, wage negotiation, or compensation claims. Non-compliance with rules and regulations under the Pakistan Environmental Protection Act 1997 (PEPA) and the Balochistan Environmental Protection Act 2012 remains a major challenge.
- (6) Under the Initial Environmental Examination/Environmental Impact Assessment (IEE/EIA) Regulation 2000, the Balochistan Environmental Protection Agency (BEPA) demands an IEE, including a "Gas Free For Man Entry" certificate, and issues an environmental approval with the condition

that the proposed Environmental Management Plan (EMP) be implemented for every ship beached. However, the BEPA based in Quetta lacks the resources for the regular monitoring of the yards. Reportedly, environmental approvals are issued without the ship being boarded for inspection. The present enforcement of the IEE/EIA Regulation seems to be merely a paper-checking procedure which is not based on the actual implementation of standards on the ground.

- (7) Pakistan, contrary to what is being done in India and Bangladesh, does not require a "gas-free for hot work" certificate from the owners and/or the cash buyer. Therefore, ship owners selling old tankers do not have to bear the costs of cleaning the tanks before the import into Pakistan. As a consequence, Pakistan has become the major destination for old tankers. Not ensuring proper "gas-free for hot work" conditions is very unsafe, as gas explosions usually cause severe accidents.
- (8) The adherence to certification schemes such as ISO standards are in principle welcome and can help the operators to implement certain procedural standards. However, a clean and safe ship recycling facility must prove compliance by not only procedural but also performance standards. Moreover, it is unclear if yards practise self-certification or if an external qualified and independent certifier is involved.

#### HAZARDOUS WASTE MANAGEMENT

- (9) The regulatory requirements for hazardous waste management in domestic law are incomplete or existing law is not in force. For instance, there are no standard operating procedures (SOPs) to deal with hazardous wastes and other materials retrieved from the ships.
- (10) The shipbreaking yards lack storage facilities for hazardous wastes and a treatment plant for sewage or oily waters, a waste treatment or disposal facility in the vicinity, e.g. a proper landfill for asbestos, and an incinerator for the thermal treatment of PCBs. Hazardous wastes such as asbestos are dumped behind the yards in an unmarked area. It is unclear what kind of pollutants are released into the sea or soil.
- (11) The regulatory framework does not require a specific procedure for safe asbestos handling and disposal and there are no guidelines offered by the authorities, meaning that asbestos removal is unsupervised and dangerous.

(12) Hazardous wastes, including PCBs, heavy metals, ozone-depleting substances (ODS) and asbestos, are not traceable once they leave the yards. Documentation and record-keeping of the waste coming from the ships and leaving the yards are non-existent.

#### WORKING AND LIVING CONDITIONS

- (13) Most of the workers come from the Khyber Pakhtunkhwa Province (52,2%), Punjab (25,7%), Balochistan (14,6%), and Sindh (6%). They tend to work in the yards for a short period of time, between one and five years. All workers are male. Child labour directly in the yards could not be witnessed; however, young workers have reported to have worked in the yards before the legal age of 18. 58% of the workers are illiterate. Most of the workers have chosen this job as they are unaware of alternative occupations.
- (14) The workers live in shanties behind the yards which are made out of plywood taken from the ships. Currently, there is no plan to create housing for the workers neither by the shipbreaking companies nor by the government. While most workers in Gadani have left their families behind in their home regions, around 100 families live next to the yards. The availability of schools, medical facilities and food shopping outlets is limited in the vicinity of the yards.
- (15) There is a lack of proper sanitation and there is no public supply of safe drinking water. Most workers receive drinking water from tanks, which has been reported to be unclean. The trade unions demand a water filter and express the urgent need to improve the living conditions of workers.
- (16) Most of the employment is non-formal on the basis of daily wages without written contracts or appointment letters. The workers are hired by "contractors", middle-men between the workers and the operators of the yard. Most of the workers are not registered for social benefits, which is a consequence of the contractors' presence in the system. There are no specific skills or health screenings necessary for recruiting workers.
- (17) According to the Ship Breaking Labour Union Gadani, workers' families receive compensation payments in the event of death. As there is no full documentation of all casualties as well as of all work-related injuries it is unclear whether all victims' families receive payments and whether all workers receive compensation for severe injuries.

- (18) Standard working hours are 8 hours a day, from 7 am to 4 pm including a lunch break. There are no night shifts. Statements regarding the payment of overtime were contradictory. According to the NTUF, workers often continue working until 7 pm after the regular shift, sometimes until 10 pm. Workers do not have paid holidays and work seven days a week. This would not be legally possible under a normal work contract.
- (19) Workers recruited on a daily wage basis earn, according to the 2011 agreement between the Ship Breaking Labour Union Gadani and the PSBA, between 366 PKR (USD 3,50) for a "helper" and 850 PKR (USD 8) for an "oil worker". A foreman earns 2000 PKR (USD 18,50) a day. Since June 2013, the minimum wage in Pakistan is 10,000 PKR per month.

### TRADE UNION AND WORKERS REPRESENTATIONS<sup>5</sup>

- (20) The large majority of workers are reluctant to become trade union members. The representation of workers, their active involvement in the bargaining of wages, the demand for labour rights and the improvement of working conditions are therefore weak.
- (21) There are two active trade unions, the Ship Breaking Labour Union Gadani (in the following: "Labour Union") and the Ship Breaking Democratic Workers Union (in the following: "Democratic Workers Union"). The latter is organised under the National Trade Union Federation (NTUF).
- (22) The "Democratic Workers Union" argues that the "Labour Union" is not the Collective Bargaining Agent (CBA), that is, does not legally represent the workers in trade disputes for their wage, as there has been no referendum by the workers to elect their CBA. Moreover, it claims that the leadership of the "Labour Union" is linked to the contractors, who are members of the local elite and who recruit the workforce. The "Democratic Workers Union" has received its registration as a trade union after a long-lasting struggle, but it is not recognised by the PSBA.
- (23) A collective bargaining for wages takes place every two years. The "Labour Union" regularly finds agreements with the PSBA on wages and other benefits.

### OCCUPATIONAL HEALTH AND SAFETY PROVISIONS

- (24) Personal protective equipment (PPE) is barely used. The PSBA reports that shoes, goggles and helmets are handed over to workers; however, helmets are often not used due to the heat. Conversely, the NTUF claims that shoes, goggles, overalls and earplugs were rarely provided.
- (25) Respiratory protection and masks are not available and according to the NTUF, workers complain about their exposure to fumes. Workers do not wear climbing gear while working at great heights as the equipment is not provided.
- (26) The lack of safety measures during asbestos removal is particularly worrying. Workers who remove asbestos are only protected by gloves and equipped with a hook. Areas of asbestos removal are not sealed off and the workers do not wear masks as these are not provided. There is a serious concern that workers will suffer from asbestos-related diseases such as asbestosis and mesothelioma as a direct result of the lack of protection.
- (27) The typical injuries are cuts, burns, and bone fractures resulting from unsafe operations, lack of PPE, non-compliance with standard work-related procedures and poor training.
- (28) In 2012, the NTUF recorded 12 deaths caused by accidents. Neither the operators nor the authorities document accidents, casualties and occupational diseases, and therefore the real number of casualties is unknown and the dimension of long-term health effects cannot be foreseen. The PSBA denied that there had been any fatal accidents in 2012.

### **EMERGENCY RESPONSE**

(29) According to the operators, emergency plans are in place. However, the real provisions consist of mostly non-functional fire-fighting equipment and the emergency plans could not be verified by the researchers of this report. Workers injured in the hull of a ship need to be carried across the beach. There is only one ambulance to take workers to the hospital in Karachi, the nearest general hospital, and workers have reported it is not always available.

- (30) More than half of the yard operators claimed that their workers were trained for emergency situations. However, the effectiveness and frequency of these trainings need to be verified.
- (31) There is no doctor, no dispensary and no well-equipped health centre at the yards. Apparently, first aid boxes are present in most of the working plots. Their content and functionality need to be further checked. The infrastructure for medical care is far from sufficient. The nearest hospital equipped to take care of seriously injured workers is in Karachi, about 50 km away, too far in case of severe accidents.

#### **TRAININGS**

- (32) The training and capacity-building status of the workforce is poor, which is partly due to the workers' low level of education and also to their being hired on a temporary basis. Only one quarter of the workers claim to be aware of the presence of hazardous materials in the ships.
- (33) The results show that especially workers who have been working in the yards for a longer period have received trainings on emergency response, rescue and fire protection; however, the quality of trainings and capacity-building measures are unknown and training efforts are not recorded.

#### **RECOMMENDATIONS**

Both the Federal and Provincial Government together with the responsible authorities need to address the aforementioned issues by developing a cross-departmental "Safe and Green Ship Recycling Strategy" and a sector-specific regulation to implement international standards based on the Basel Convention and the future Hong Kong Convention as well as relevant ILO Conventions and guidelines and to enforce existing relevant national legislation. The guidance already offered by international organisations, in particular the Secretariat of the Basel Convention, can serve as a basis for this strategy, in particular the detailed technical requirements, timelines, and the cost estimations for the needed investments.

### 1. INTRODUCTION

Shipbreaking – the dismantling of vessels for the recovery of steel and other materials – mainly takes place in developing countries. India, Bangladesh and Pakistan dismantle more than two thirds of all end-of-life vessels sent each year for breaking globally. Shipbreaking is a hazardous industry – both for the workers and for the environment – and adequate technologies for dismantling and the management of hazardous wastes need to be used, stringent procedures followed and labour rights enforced. End-of-life vessels are considered as hazardous waste under international environmental law when they contain toxic materials such as asbestos, heavy metals, polychlorinated biphenyls (PCB), polyaromatic hydrocarbons (PAH), and organotins like tributyltin (TBT). These hazardous materials are structurally part of the vessels and are found, for example, in the engines. So far, there are no "green" ships built without any hazardous material.



Today, shipbreaking in South Asia is still taking place at the cost of environmental destruction and severe health risks for the workers and the local population who are exposed to this hazardous industry. In 2012, ship owners sold 850<sup>6</sup> end-of-life vessels for scrapping in India, Pakistan and Bangladesh. 'Beaching', the method currently used in South Asia, makes it impossible to ensure clean and safe operations, as it consists in breaking ships directly on the beach without proper structures to ensure full containment of pollutants, hazardous waste management, and protection of workers' health and safety. The shipbreaking industry is responsible for many preventable accidents, work-related illnesses and loss of human lives, as well as the distribution of hazardous materials and the pollution of the surrounding marine and coastal environment. The ship owners and the global maritime industry, mainly located in the industrialised countries, externalise the real costs for clean and safe recycling to the South Asian countries where laws guaranteeing environmental protection and workers' health and safety are not properly enforced.

The International Labour Organization (ILO), the United Nations Environment Programme (UNEP) - in particular the Basel Convention Secretariat (SBC) - and the International Maritime Organization (IMO) have all provided regulation and guidance regarding environmental and labour conditions in shipbreaking. The Basel Convention, to which Pakistan is a State party, sets out requirements for the transboundary movement of hazardous wastes such as end-of-life vessels and for the environmentally sound management of hazardous waste resulting from shipbreaking. The IMO's Hong Kong Convention will not enter into force for many years; however, flag states, ship owners and ship recyclers can already work towards early compliance, for instance regarding the preparation of a sound Inventory of Hazardous Materials (IHM) and a Ship Recycling Plan. Recently, also the European Union has agreed upon a Regulation on Ship Recycling. Unfortunately, international regulation and guidance have so far not led to the substantial improvements needed on the ground in Pakistan where laws are not enforced and sector-specific regulation is absent.

Simultaneously, the large majority of ship owners who take the decision to send a ship for dismantling in Pakistan or its neighbouring countries do not demand clean and safe recycling. In most cases, ship owners do not even provide an IHM to allow for the safe handling, storage and disposal of all hazardous materials present on board ships. Both the flag states and the states where the majority of owners of large commercial vessels are based have done too little to ensure clean and safe ship recycling and to prevent dubious and even illegal practices in the shipbreaking business. Especially major ship-owning countries have the responsibility to prevent the sale of end-of-life vessels containing hazardous waste to a recipient country, if it is known that the latter cannot enforce international waste law. The shipping nations must contribute financially and technically to the improvement of the shipbreaking yards so that these can guarantee the safety of workers and environmental protection as laid down in the Basel Convention and its Technical Guidelines, the ILO Guidelines and the Hong Kong Convention and its Guidelines.

In 2012, UNEP published a case study to describe models for compliant ship recycling facilities off the beach taking into account the requirements of the Basel Convention and the Hong Kong Convention. It identifies the necessary steps to be taken in the short, medium and long term at ship recycling facilities to allow for compliance with the two Conventions, focusing in particular on the environmentally sound management of hazardous wastes. The UNEP survey chose Pakistan as a test case. Moreover, in 2013, the Secretariat of the Basel Convention published a feasibility report providing models for alternative, environmentally sound ship recycling operations, identifying suitable sites and estimating the costs for the establishment and operation of such facilities. The government and the industry need to invest in sustainable technologies and practices off the beach with adequate infrastructures and proper downstream waste management and which allow for safe working conditions.



### 2. OBJECTIVE AND METHODOLOGY

### 2.1 OBJECTIVE

The objective of this study is to shed light on the global economic and legal framework in which the shipbreaking industry in Pakistan is embedded, and to provide a clearer picture of the current shipbreaking practices in Gadani including the working conditions and the availability of technology, infrastructure and procedures to protect human health and the environment. The study then presents a way forward for a safe and "green" ship recycling industry and offers policy recommendations addressed to the main stakeholders in Pakistan, that is, the Federal and Provincial Governments and authorities and the representatives of the shipbreaking industry in Pakistan. It also calls on the international organisations whose mandates cover the sector, in particular UNEP / Secretariat of the Basel Convention, ILO and IMO, to assist Pakistan in realising the objective of clean and safe ship recycling.

This study is motivated by the fact that little information is available on the current situation in the shipbreaking yards in Gadani, Pakistan. The shipbreaking sector in India and Bangladesh has already received more attention after cases have been successfully brought to the courts, due to broad domestic and international media coverage, as well as research on various issues specific to the sector<sup>7</sup>. This study therefore aims at highlighting the specific needs and features of the shipbreaking industry in Pakistan.

Moreover, there has been no major contribution by civil society organisations. The most important contributions on the matter so far have been published by the World Bank and the United Nations Environment Programme (UNEP)<sup>8</sup>. The World Bank report focuses on the economics of shipbreaking, and the UNEP contributions present detailed technical requirements for improvements. This study presents up-to-date information on the global economic and legal framework and the current conditions in the yards based on extensive research on the ground.

### 2.2 STUDY METHODOLOGY

This paper is based on the evaluation of primary and secondary sources. The analysis of the global economic and legal framework is based on a review of existing literature on shipbreaking as well as the NGO Shipbreaking Platform's own publications on the economic and legal developments in the sector. Moreover, the Platform regularly compiles data on the global trends in shipbreaking, which were integrated in this study. In order to present a clearer picture of the situation on the ground, primary data were obtained through a field survey in the shipbreaking yards of Gadani, in particular between September and December 2012 and in October 2013. Further information on the health and safety of workers, as well as the environmental conditions, was gained through stakeholder consultation and interviews during the same periods.

For this report, both quantitative and qualitative data were collected applying a two-tier approach. Firstly, field visits to the yards took place and all functional shipbreaking yards at Gadani were screened based on a standardised yard observation form. The form was filled out based on observations in the yards and answers given by the management of the 38 economic operators of the plots. Secondly, SDPI staff interviewed workers in the yards based on a standardised questionnaire9. At the time of the study design, SDPI estimated there were around 12,000 active workers and decided on sampling 5% of all workers. Therefore, SDPI staff conducted interviews with 600 workers, of whom 545 fully completed the questionnaires and were taken into account by SDPI statisticians. The workers interviewed represent all active plots. All observations were statistically analysed through SPSS Statistics<sup>10</sup>. The findings are based on the triangulation<sup>11</sup> of results from both qualitative and quantitative research.

Relevant primary stakeholders (Balochistan Development Authority, Balochistan Environmental Protection Agency, Planning Commission of Pakistan, Pakistan Shipbreakers' Association, and trade unions) were consulted. Moreover, in December 2012 consultation took place with representatives of civil society organisations in Pakistan including IUCN, WWF-Pakistan, the Labour Education Foundation, the Human Rights Commission of Pakistan and other

<sup>7.</sup> Please find an overview of research and publications at: http://www.shipbreakingplatform.org/library/.

<sup>8.</sup> World Bank (2010) Ship Breaking and Recycling Industry in Bangladesh and Pakistan; UNEP / LITEHAUZ (2013) Feasibility Study for Ship Dismantling; and UNEP / Roy Watkinson (2012) Case Study to Develop Models of Compliant Ship Recycling Facilities.

<sup>9.</sup> The yard observation form and questionnaire are available at SDPI or the NGO Shipbreaking Platform for any reader interested.

<sup>10.</sup> SPSS Statistics is one of the most widely used software programmes for statistical analysis in social science.

<sup>11.</sup> In this case, triangulation means the combination of different methods to obtain data and information

SDPI staff, as well as international organisations and foundations such as ILO and UNDP, the EU delegation to Pakistan and the Heinrich Böll Foundation. The comments from the stakeholders were incorporated in the analysis, findings and recommendations of this paper. The stakeholders all expressed their interest in the issue and shared their ideas to make Pakistani shipbreaking yards conform to minimum standards.

The paper uses data given by the 2010 World Bank report, which provides information about the economics of shipbreaking, in particular regarding employment and contribution to the GDP, competiveness and profitability of the industry and the linkages to the steel sector. For that report, yards in Pakistan were tested for soil contamination and the World Bank suggested that the amounts of hazardous waste that accumulate in the region originate from shipbreaking industries<sup>12</sup>. Additionally, the report refers to the already mentioned case study published by UNEP in 2012, which uses Pakistan as a case study on models for Basel and Hong Kong compliant ship recycling facilities. The researchers of that report conducted a baseline study amongst shipbreaking yard operators, competent authorities and waste management facilities.

Moreover, the initial findings of the plot observation and survey amongst workers have been shared with key stakeholders during a panel discussion during SDPI's 15th Sustainable Development Conference held in Islamabad in December 2012, and with graduate students at the National University of Science and Technology (NUST) in Islamabad. The first version of this report was further discussed following publication in October 2013 and meetings with contributors to this report. Their comments then were also included in this second version.

### 2.3 LIMITATIONS OF THE STUDY

With regards to the workforce, the survey conducted for the study has covered a considerable sample size of workers through interviews. They were taken anonymously, so that workers did not have to fear possible consequences. However, due to budget and time constraints, the interviews were taken in the shipbreaking yards or in dwellings and offices in the vicinity, with the acknowledgement of both the "Labour Union" as well as the yard operators in Gadani. This may have influenced the answers of the workers as some of them may have questioned the impartiality of the interviewers. If the interviewers had had the possibility to build a situation of stronger mutual trust with the workers, i.e. conducted the interviews outside the workplace, the results could potentially have been even more significant.

This report did not conduct any independent testing on environmental impacts and trusts the findings published in the World Bank and UNEP reports. However, concerning hazardous waste management in shipbreaking, there is no comprehensive study on where different hazardous wastes finally go and the kinds of hazardous wastes that re-enter the market. The SBC is expected to map the hazardous waste streams as part of an EU-funded project. There is furthermore a lack of regular examination of soil, sediment, water and air samples to fully understand the environmental impact of the industry. Similarly, concerning working conditions, accidents, injuries and occupational diseases, there is a poor record-keeping practice and therefore a substantial lack of data.

### 3. THE SHIPBREAKING INDUSTRY

This chapter presents the shipbreaking sector on three levels - internationally, in South Asia, and in Pakistan - and is based on data compiled by the NGO Shipbreaking Platform and on a literature review in order to understand the global economic influences of shipbreaking in Pakistan.

### 3.1 GLOBAL PERSPECTIVE

Currently, the global shipbreaking industry dismantles more than 1,000 large ocean-going vessels, such as container ships, bulkers, oil and gas tankers and passenger ships, every year in order to recover steel and other valuable metals or recyclable items. Nearly all ship recycling activities are concentrated in five countries: the three South Asian countries (India, Bangladesh, and Pakistan), China, and Turkey. Further capacity is available in North America (US, Canada, Mexico) and within the European Union (amongst others Denmark, Belgium and the UK). At present, South Asia undoubtedly receives the largest share of end-of-life vessels.

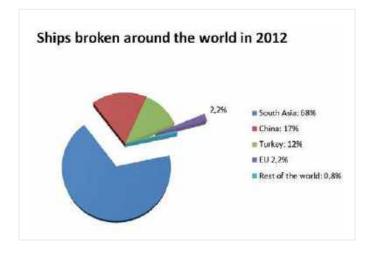


Figure 1. Source: NGO Shipbreaking Platform

In 2012, the NGO Shipbreaking Platform recorded a total of 1,254 large commercial vessels dismantled world-wide<sup>13</sup>. 68% of these end-of-life vessels were broken in South Asian yards. China attracted 17% of the ship recycling market (209 ships), whereas Turkey covered 12% (153 ships). Around 3% of end-of-life vessels were

recycled elsewhere. The EU represented 2,2% of the total share in 2012 with 28 dismantled ships<sup>14</sup>.Pakistan ranks fourth in the global comparison, both in terms of scrapped volume as well as in absolute number of ships recycled.

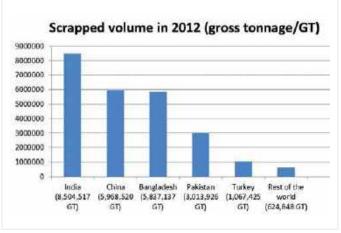


Figure 2. Source: IHS Fairplay

The intensity of ship dismantling activities fluctuates depending on various economic factors on the global and national levels. A main factor is the supply of end-of-life vessels which is directly influenced by the global economy: during an economic recession — the current one being a good example — ship owners sell older vessels for scrapping. Keeping idle ships may prove to be less economically interesting than selling them for demolition. At the same time, the demand for scrap steel also influences scrapping activities: the growth of the shipbreaking sector in South Asia is linked to the growing demand for steel. Depending on local and global steel prices, the scrap steel recovered in the shipbreaking yards is sold on the domestic markets in India, Bangladesh or Pakistan, but can also be re-exported for example to the European Union.

<sup>13.</sup> This figure comprises large ocean-going vessels and does not cover military or government-owned vessels, smaller ships such as fishing vessels, or ships that were operated and then scrapped within the same country.

<sup>14.</sup> The remaining 1% - mostly single ships - were dismantled in Bahrain, the Dominican Republic, Mexico, Ecuador, Indonesia, the Philippines, Canada and Ukraine,

Finally, one of the main reasons behind the current global distribution of ships destined for breaking is the comparatively low labour and compliance costs for environmental protection, hazardous waste management and workers' health and safety in South Asia.

Several factors have led to the current sharp increase in the number of vessels dismantled every year. On the one hand, ship owners modernise or rejuvenate their fleets in order to comply with environmental standards or to increase their operating efficiency. Another main factor is the phasing-out of single hull oil tankers, which is to be completed by 2015<sup>15</sup>. What is more, the current global economic crisis led to a downturn in global freight rates. Ship owners who had new tonnage built during the sea trade boom that took place between 2004 and 2007 now face an overcapacity of ships. The growth of the supply outpaced the actual demand.

Three main business stakeholders determine the fate of the global ship recycling industry, market developments and practices. First, the ship owners decide when to sell a ship for breaking and the price at which they want to sell it. In the current market situation, ship owners make the biggest profit from their vessels when selling to yards with the lowest standards. Therefore, it is the ship owner who can set the standard for the recycling of his fleet. Secondly, cash buyers identify a ship recycling facility for the ship owner (sometimes with the help of brokers). In most cases, they buy the ship before its last voyage, often renaming and re-flagging it, and deliver it to the scrap yard. Cash buyers advise ship owners on ship recycling practices and therefore play a crucial role in influencing ship owners on where to send their ship, providing the ship owners with a choice. Furthermore, cash buyers typically gain a percentage in the overall profit made from scrapping, so they have a direct interest in increasing the ship owners' profits and to send ships where they are broken cheaply. Finally, the shipbreaking or ship recycling yards need to implement the standards for the dismantling activities, but they have less incentive to do so as long as ship owners do not demand clean and safe recycling. All three stakeholders generate revenue from the ship recycling business and therefore share the responsibility for making the industry clean and safe.

# 3.2 REGIONAL PERSPECTIVE IN SOUTH ASIA

Historically, ships were scrapped where they were built: in European and North American shipyards. Due to rising labour costs, stricter regulation for environmental protection and a backlog of old vessels, the bulk of ship dismantling moved to East Asia, in particular to Taiwan and South Korea in the 1970s<sup>16</sup>. A second drastic relocation of the business towards South Asia occurred over the last 25 years. The World Bank report gives the following reasons: "A large labour supply, low labour costs, and a relative lack of environmental and occupational health regulation have all been vital. Also important is the fact that Bangladesh and Pakistan feature some of the largest current and pent-up future global demand for the Ship Breaking and Recycling Industry's (SBRI) outputsnotably, relatively low-grade mild steel bars and rods for use in construction"17. As a consequence, South Asia currently holds a nearly 70% share of the international market. India constitutes the single largest shipbreaking country. According to figures from the NGO Shipbreaking Platform for the year 2012, India covered 40% of the ships dismantled in 2012 (497 ships). Bangladesh scrapped 230 ships in 2012, or 18% of the global end-of-life tonnage, while Pakistan dismantled 124 ships, or 10%.

In India, the industry is mainly located at Alang-Sosiya in the State of Gujarat, about 50 km from the port city of Bhavnagar, where yards were first set up in 1983. Moreover, there are also shipbreaking yards in Mumbai, Sachana, Azhikkal and Kolkata. In Bangladesh, the yards are on a beach stretch in Sitakunda located to the north of the port of Chittagong, in the south-east of the country. In Pakistan, the industry is situated in Gadani, Balochistan, about 50 km to the west of Karachi. The geographical features of the shipbreaking beaches vary, which leads to differences in how the yards operate. The Alang beaches have a tidal range of 13 m, and during high tide the ships are pulled further up the beach. Both in Sitakunda and in Alang, beaches are wide and muddy. In Gadani, the beaches are sandy and dry and display a low tidal range.

<sup>16.</sup> Kumar (2009), p. 5

<sup>17.</sup> World Bank (2010), p. 2. SBRI stands for ship breaking and recycling industry.



As regards the regulatory framework, the political climate and the economy, there are considerable differences between the three shipbreaking countries; however, the yards operate under comparable conditions as far as environmental protection, health and safety provisions, and working conditions are concerned. In all three countries, the ships are dismantled directly on the beach. The currently used beaching method makes it impossible to fully contain pollutants. Hazardous waste is not properly documented and managed. In Alang a Treatment, Storage and Disposal Facility (TSDF) has been set up for the industry, however, waste burning on beaches is still being documented and the imported amounts of hazardous waste and those disposed of adequately are not documented in a transparent way. Moreover, emergency response, for instance ambulances and fire fighters, can hardly reach the vessels on the beach. Finally, even if lifting equipment such as small cranes can be installed on a beach, adequate heavy machinery can only be set up on stable ground such as on a pier or in a port area. Therefore, all three shipbreaking locations rely on the gravity method, that is, large steel sections are brought down by their own weight and crash onto the beach or into the water.

A large part of the workforce in all three locations consists of migrant workers from poorer parts of the countries. Workers are mainly recruited on a daily basis without a permanent contract. They usually live in shanties next to the yards. Many of the workers are illiterate and not properly trained for hazardous work such as asbestos removal. Regular fatal and other severe accidents are common to all three South Asian countries: workers falling from great heights, steel parts striking workers, fires and explosions, and workers' exposure to hazardous materials such as asbestos or toxic fumes. In all three countries, accidents and casualties are not fully recorded and there is no systematic health screening of the workforce and no available data.

In the last decade, following continuous criticism on the international and national level regarding the poor working conditions and environmental degradation caused by shipbreaking, some of the yards have invested in upgrading their facilities. Most of the improvements have happened in the Indian shipbreaking yards, where, for instance, a landfill site and the Treatment, Storage and

Disposal Facility (TSDF) have been constructed and the Gujarat Maritime Board (GMB) has promised the establishment of a hospital next to the yards and accommodation has been constructed for a small part of the workforce. However, this needs to be publicly documented as there are no up-to-date independent reports substantiating the claimed improvement and yards are not open to public scrutiny. Moreover, some standards used — such as ISO 30000 — are not reliable as the certification procedure is reportedly dubious, or the certificates are obviously worthless (such as a so-called "Green Certificate" which is being delivered without a proper survey taking place).



# 3.3 NATIONAL PERSPECTIVE IN PAKISTAN

Informally, shipbreaking in Pakistan started in 1947, before the country's independence, on the Gadani coast<sup>18</sup>. The sandy beach (compared to the muddy beach in Bangladesh) and a deep water level allowed for the easy beaching of vessels. The industry grew after the country gained independence and was at its peak in the 1970s and 1980s. At that time, the Gadani shipbreaking yards employed over 30,000 workers directly and Gadani was then considered the largest shipbreaking yard in the world<sup>19</sup>. For different reasons, amongst others the introduction of comparatively high taxes on the sector under the first Nawaz Sharif government, the Pakistani shipbreaking industry lost its competitiveness to India and Bangladesh. According to the Pakistan Ship Breakers Association (PSBA), the profit margin for shipbreaking in Pakistan as depicted in the 2010 World Bank report is still correct. The last years have seen a revival of the industry. According to the Chairman of the PSBA, Dewan Rizwan Farooqi, the year 2012 brought more business to the yards again, which reflects the global peak in the total number of ships scrapped in 2012.

According to the PSBA, the industry pays taxes of about 5 billion Pakistani Rupees (circa 4,7 million USD) annually, out of which 30% go to the Provincial Government of Balochistan. The shipbreaking industry argues that it plays an important role in reducing import burdens for scrap steel for the iron industry in Pakistan, contributes to the GDP, and provides employment for workers from Balochistan, which is the country's poorest province. At the same time, the shipbreaking industry is a direct competitor of the Pakistan steel industry and both industries have been rivalling with each other for instance regarding different levels of taxation.

The Planning Commission of Pakistan intends to revive the industry based on "green" ship recycling standards and to increase its contribution to the GDP. In 2013, the Federal Minister for Port & Shipping Kamran Michael expressed his desire to encourage shipbreaking activities in Port Qasim, next to Karachi, or even to shift the whole industry to the port area. So far, there is no federal or provincial policy for the shipbreaking industry.

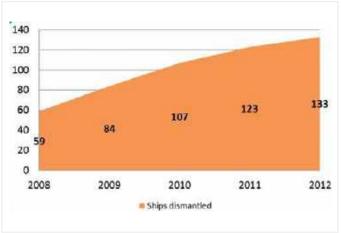


Figure 3. Increase in ships dismantled per year since 2008 (source: PSBA)

<sup>18.</sup> Kumar (2009), p. 4

### FACTS AND FIGURES: SHIPS BEACHED IN PAKISTAN (May 2009 – May 2013)

The following facts and figures about end-of-life vessels beached in Pakistan over a time span of four years is based on research by the NGO Shipbreaking Platform. The Platform compiles data on all ships sent for dismantling, previous ownership, changes in flags and final destinations.

### How many end-of-life vessels were sold to Pakistan in the last few years?

The NGO Shipbreaking Platform recorded 403 ships that were beached over four years from May 2009 to May 2013 in Gadani, which included 100 ships in 2010, 99 ships in 2011, and 117 in 2012.

### Who were the beneficial owners of end-of-life vessels sent to Pakistan for breaking?

Beneficial owners are those who ultimately benefit economically from a ship. The majority of beneficial owners came from Greece (102 vessels beached, 25,3% of all ships) and the United Arab Emirates (66 ships, 16,3% of the total). Ship owners from India (19 ships), the UK (15 ships) and Singapore (13 ships) followed. Norwegian ship owners had 11 ships dismantled in Pakistan. Some European companies sent ships via their offshore offices, such as Frontline Ltd., the world's largest oil tanker company, who sent four oil tankers via its headquarters in the Bahamas.

### What did European companies represent in terms of ownership?

149 out of the 403 ships dismantled in Pakistan, more than one third, were sent by companies based in the EU (including Norway). Greek and British owners are the largest exporters amongst EU companies.

#### What flags did the ships fly when coming to Pakistan?

The practice of changing the name of the ship and its flag is common when a ship changes hands, but at end of life ship owners often seek out the most indulgent flags. A typical example is the flag of Comoros. Sometimes only a few days go by between the change of flag and the arrival of a ship in Gadani. The cases are similar for the flag of Saint Kitts and Nevis, Tuvalu, and Tanzania. Whether it is the ship owner or a cash buyer who decides for the re-flagging prior to beaching is unclear: these data are not accessible to the public.

Most European ship owners use flags of convenience (FOCs) already during the operational use of the ship including for the last voyage. For example, 90 out of the 102 ships sent to Pakistan by Greek companies were flagged in a state other than Greece. Out of the 149 European ships, only 19 were registered (and thus flagged) in the country of beneficial ownership. Ship owners used a European flag in 49 cases upon beaching (including the Norwegian flag). The new EU Regulation on Ship Recycling will cover ships flying the flag of an EU Member State which in the future

can only be recycled in a facility compliant with the provisions under the Regulation. Although comparatively small in relation to the use of FOCs, European flags made up 12% of all end-of-life vessels coming to Pakistan.

#### What kinds of vessels were beached in Pakistan?

The most common types of ships beached in Gadani were tankers (178 for the period analysed, between 2009 and 2013). Most of the tankers were owned by companies based in Greece (54), followed by the UAE (25). Companies based in Saudi Arabia, Norway, Singapore, Kuwait, Nigeria, the US and Mexico also seemed to favour Gadani as a last destination for end-of-life tankers. The second most common ship types were bulkers (142 ships beached). Once again, Greek companies, with 44 bulkers sold to Pakistan, rank first on the list. Just as for tankers, the UAE was the second biggest seller (13 bulkers), and Indian and British owners followed. Only 3 containerships were beached in Pakistan – a negligible number compared to India: according to our data, 108 containerships were beached in Alang in 2012 alone.

Notably, no ship younger than 14 years old was beached in Gadani in 2012. Only 2,5% of the ships scrapped dated from the 1960s. 27,5% were built in the 1970s; 53,3% in the 1980s; and 16,7% in the 1990s. Whereas the NGO Shipbreaking Platform has recorded containerships younger than 15 years sent for dismantling in India, Gadani seems to receive older vessels. It's typically riskier to dismantle older ships as they were built before regulations banned the use of hazardous substances such as PCB and TBT in paints, or asbestos. The ships are therefore likely to contain even larger amounts of such substances compared to ships built more recently. Within the pool of European-owned ships, the bulk of end-of-life vessels sent to Gadani (124 ships or 83%) were built in the 1980s and 1990s.

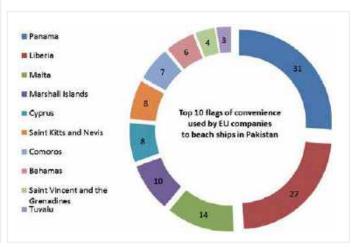


Figure 4. Source: NGO Shipbreaking Platform

This chapter presents an analysis of the international, EU and national legal framework regulating the shipbreaking industry based on a review of the available literature and case law in order to better understand the relevant legal obligations for the sector in Pakistan.

# 4.1 INTERNATIONAL LAW UNDER UNEP, IMO, ILO

The Universal Declaration of Human Rights adopted in 1948 specifies in Art. 25 the right to a standard of living adequate for health and well-being. With reference to the Stockholm Declaration of 1972 as well as the Rio Declaration of 1992, the United Nations Human Rights Commission adopted a resolution concerning the adverse effects of the dumping of hazardous wastes on the enjoyment of human rights and appointed a Special Rapporteur to further investigate and report to the Commission. The Special Rapporteur identified shipbreaking as a new form of waste trafficking and stated that end-of-life ships should be considered as hazardous waste. The issue of human rights in shipbreaking yards came to the attention of the international community in the 1990s, also pushed by the concerted actions of NGOs.

### **BASEL CONVENTION**

The United Nations Environmental Program (UNEP) adopted the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which entered into force in 1992, following numerous hazardous waste trafficking scandals in the late 1980s. The Basel Convention combines several concepts to protect human health and the environment against the dangers of hazardous waste: the minimisation of hazardous waste and waste self-sufficiency, a control system for any transboundary movement of hazardous waste, including the Prior Informed Consent (PIC) procedure, and the environmentally sound management (ESM) of wastes. It has been ratified by 180 countries and is therefore global in scope. The Convention covers end-of-life vessels when these contain hazardous materials; however, both the PIC and ESM are rarely implemented for ship dismantling. PIC is seldom followed as it is unclear who the exporting state is if there is no port state involved, and flag states have no obligations under

the Basel Convention. On the other hand, the importing countries, India, Bangladesh and Pakistan – all State parties to the Basel Convention – do not comply with their obligations for ESM.

As the Basel Convention remains the only international regulation which aims at protecting developing countries from the dumping of toxic wastes exported from industrialised countries and has successfully been used in court cases in South Asia, the NGO Shipbreaking Platform has been continuously demanding that the Convention be enforced for end-of-life vessels.

In 1995, State parties to the Basel Convention adopted an amendment, banning the export of wastes intended for recovery and recycling to developing countries. In order for the Ban Amendment ("the Ban") to enter into force 13 more countries need to ratify it. At the European level, the Ban Amendment has been incorporated into the European Waste Shipment Regulation (WSR), meaning that EU Member States are not allowed to export hazardous wastes to developing countries. However, the definition of "exporting state" both under the BC and under the WSR only refers to the port of dispatch. As most ships are sold for scrapping once they are outside an EU port, the Waste Shipment Regulation is rarely enforced for ships.

In 2002, the Basel Convention adopted the Technical Guidelines for the Environmentally Sound Management (ESM) of the Full and Partial Dismantling of Ships, a document for countries that already have or are establishing ship dismantling facilities. The Guidelines provide information and recommendations on procedures, processes and practices that must be implemented to attain safe and environmentally sound ship dismantling. The Guidelines also provide advice on monitoring and verification of environmental performance. Moreover, they outline a phase-out for the beaching method following a ten-year transitional phase.

In 2007, the Secretariat of the Basel Convention (SBC) launched the Global Programme for Sustainable Ship Recycling in order to



encourage collaboration between key stakeholders to facilitate improvements in workers' health and safety and environmental protection. The SBC has offered a variety of technical capacity-building activities upon Basel parties' request. It has lately published a case study and a feasibility report on alternatives to the beaching method, which offers guidance to Pakistan on how to make shipbreaking yards compliant<sup>20</sup>.

#### HONG KONG CONVENTION

The International Maritime Organization (IMO) decided to develop a new global shipbreaking regime in December 2005. The International Convention for the Safe and Environmentally Sound Recycling of Ships was adopted by a diplomatic conference under the auspices of the IMO in Hong Kong in May 2009. Guidelines supporting the Convention have recently been developed by the IMO. The Hong Kong Convention is not expected to enter into force before many years. To this date only Norway has ratified it (in April 2014). So far, none of the shipbreaking countries in South Asia have signed or acceded to the Convention.

The Platform calls for the co-existence of the Basel and Hong Kong Conventions and to combine elements from both. The Hong Kong Convention alone does not provide an equivalent level of protection for developing countries from hazardous waste coming from industrialised countries, it lacks important elements such as the 'polluter pays' principle, waste prevention, and provisions regarding downstream waste management. The Hong Kong Convention comprises requirements for ships — such as having an IHM prior to recycling — and for ship recycling facilities, as well as reporting requirements. The Convention requires ship recycling facilities to be authorised by the authorities and to implement a Ship Recycling Facility Plan (SRFP) that covers worker safety and training, protection of human health and the environment, roles and responsibilities of personnel, emergency response, and systems for monitoring, reporting and record-keeping.

Although the Hong Kong Convention does not rule out the beaching method as non-compliant, so far only a couple of Chinese ship recycling yards have received, or are awaiting, a statement of com-

pliance from Japanese classification society ClassNK. If Pakistani yards seek compliance with the Hong Kong Convention, the yards must be upgraded with regards to all the requirements listed above.

### **ILO RECOMMENDATIONS**

The ILO has called shipbreaking one of "the most dangerous occupations" in the world. In March 2004, the ILO unanimously endorsed a set of criteria to govern the disposal and recycling of ships. The criteria are outlined in "Safety and Health in Shipbreaking: Guidelines for Asian Countries and Turkey". The Guidelines suggest a national framework defining the general responsibilities and rights for employers, workers and regulatory authorities in shipbreaking. In addition, they provide recommendations on safe shipbreaking operations including the management of hazardous substances, protection and preventive measures for workers against hazards and suggestions for a competency-based training program.

Pakistan has neither ratified the Occupational Safety and Health Convention (No. 155) nor the Convention on a Promotional Framework for Occupational Safety and Health (No. 187). The implementing Act for the latter has been pending at the Parliament since 2008<sup>21</sup>

# 4.2 THE EU REGULATION ON SHIP RECYCLING

The new European Ship Recycling Regulation entered into force on 30 December 2013 and will be fully applicable between 2016 and 2019. The objective of the Regulation is to reduce the negative impacts linked to the recycling of EU-flagged ships, especially in South Asia. Furthermore, it is designed as an early implementation of the Hong Kong Convention. The regulation will apply to large commercial vessels flying the flag of EU Member States. These ships are excluded from the EU Waste Shipment Regulation, which has so far banned the export of end-of-life vessels to developing countries.

The Regulation sets out a number of requirements for the facilities that will be allowed to recycle European-flagged ships. These requirements are stricter than those under the Hong Kong

Convention and the current facilities based in South Asia will not be able to meet them if they continue using the beaching method. The European Commission aims to set up a European List of compliant ship recycling facilities by 2015 in which EU-flagged vessels can be dismantled. Ship owners will have to ensure that each end-of-life ship is prepared for recycling according to these standards. They will have to provide the necessary information about the ship to the recycling facility, notify the intention to recycle the ship to the relevant administration, provide an updated IHM, and minimise the amount of cargo residues, remaining fuel oil and ship-generated wastes remaining on board. Finally, they will have to provide a ready for recycling certificate.

Prior to any recycling of a European ship, the ship recycling facility will have to develop a ship recycling plan based on the information provided by the ship owner. The plan will contain information about the ship essential for its safe and sound dismantling and thus will guarantee that the ship recycling facility takes the necessary steps to protect the workers and the environment. European ships will undergo surveys verifying compliance of the inventory of hazardous materials with the requirements of the Regulation.

In order to be included in the European List, any ship recycling facility irrespective of its location will have to comply with a number of requirements. The European Commission will assess the applications received from the ship recycling facilities located in third countries including South Asia.



# 4.3 INSTITUTIONAL AND LEGAL FRAMEWORK IN PAKISTAN

Despite the fact that shipbreaking has taken place in Pakistan for decades, there are hardly any specific regulations or procedures in place. Only basic procedures such as customs checks are mandatory. The Balochistan Ship Breaking Industry Rules from 1979

are limited to empowering the BDA to lease plots for shipbreaking.

General legal provisions cover the shipbreaking industry. First, constitutional guarantees for fundamental rights are applicable to the shipbreaking sector. Regarding hazardous wastes and environmental protection, the Hazardous Substances Rules (2003) under the Pakistan Environmental Protection Act (PEPA) (1997) as well as the Balochistan Environmental Protection Act 2012 apply to the sector. With regards to occupational health and safety (OHS), several Pakistani laws are of interest. However, there is no single, comprehensive law covering OHS at the workplace. Legislation dealing with OHS date back to the colonial period, for instance the Workmen Compensation Act of 1923, the Labourers Act of 1934 and the Factories Act of 1934. After independence, rules to operationalise the Workmen Compensation Act were formulated in 1961, the West Pakistan Hazardous Occupations Rules in 1963, the Provincial Employees Social Security (Occupational Diseases) Regulations in 1967, and the Labour Laws (Amendment) Ordinance in 1972. The Ministry of Labour and Manpower has prepared a draft Act for Occupational Safety and Health at Work Place in 2008, but the draft has not yet been debated. Pakistan, although member of the ILO, has not yet signed the ILO Convention 187 on the Promotion of a Framework for occupational safety and health at the workplace.

The law covering the sector, both with regards to environmental protection and health and safety provisions, generally suffers from weak enforcement and the lack of a compliance monitoring system. Moreover, most workers are recruited by "contractors". That means the workers have no permanent and direct relationship to an employer, which undermines their enjoyment of fundamental labour rights.

Following the decentralisation process in Pakistan which started in 2011 and which is based on the 18th amendment of the Constitution, certain responsibilities for labour and environmental issues have been handed over to the provincial governments, whereas others remain on the federal level. With regards to shipbreaking, there are shared responsibilities between the Balochistan Environmental Protection Agency (BEPA) and the Balochistan Development Authority (BDA) on the provincial level, and various Ministries on the Federal level (such as the Ministry of Labour and Manpower, the Social Welfare Department and the Ministry for Ports and Shipping).

Despite various laws and regulations applicable to the shipbreaking industry, there is a need for sector-specific regulation in order to ensure decent working conditions and clean and safe recycling operations in accordance with national legislation and international obligations. Two examples showcase where specific

regulations are missing. Firstly, asbestos use: the legal framework of Pakistan predates the acknowledgement of asbestos-related diseases; therefore, there is a need for a federal bill outlining rules and regulations for safe asbestos handling. Secondly, the National Environmental Quality Standards (NEQS) do not yet cover storage, treatment, recycling or disposal facilities for hazardous wastes.

### 4.4 CASE LAW AND LEGAL DEVELOPMENTS IN INDIA AND BANGI ADESH

India and Bangladesh have developed sector-specific legislation to regulate the shipbreaking industry. The driving force to change the industry has been instigated by civil society: the comparably similar petition mechanisms to the Supreme Courts have been vital in exposing the lack of compliance with environmental and labour law, by both the industry and the authorities.

#### **INDIA**

The milestone to Indian shipbreaking regulation was a petition submitted to the Supreme Court in 1995. Since then, the Supreme Court has received several affidavits, and took a final judgment on the matter on 14 October 2003<sup>22</sup>. In the order, the Supreme Court recognised that even though there were certain international obligations that India was committed to, such as those under customary international law and those reflected in general principles of international law — the precautionary principle and the polluter pays principle — many of those norms were already enshrined in national legislation<sup>23</sup>.

Evidently, there is no shortage of legislation in India<sup>24</sup>, but the main issue is a lack of enforcement. The final order of 14 October 2003 led to the formation of the Supreme Court Monitoring Committee which was set up to monitor compliance with legislation and in particular compliance with court orders. Since then, there have been several exemplary petitions submitted to the Supreme Court regarding shipbreaking that illustrate the excessive focus on formal procedural compliance as opposed to direct protection of the environment and workers' safety. The latest of these was the joint petition in 2012 regarding the ex-Exxon Valdez, later renamed into Oriental Nicety<sup>25</sup>. The Supreme Court did not deny that the rules of the Basel Convention should be strictly applied in order to protect the environment and workers, but it took the view that because the Gujarat Maritime Board (GMB) and the Gujarat Pollution Control

Board (GPCB) authorised the vessel to be broken it must be assumed that the necessary permissions were submitted and that the authorities inspected the ship accordingly.

In a nutshell, many authorities in India are involved and an array of certificates are demanded. However, the administrative burdens have not led to the changes expected by human rights, labour rights and environmental organisations.

#### **BANGLADESH**

Like India, an array of domestic law touches on the shipbreaking industry<sup>26</sup>. Bangladesh has not developed as many procedural requirements as India regarding the authorisation for a ship to be beached. A main difference, which affects the shipbreaking market shares between the two countries, is that India has more procedural safeguards for assessing whether a vessel constitutes a fire hazard. This does not necessarily mean that more rigorous inspection takes place in India compared to Bangladesh, but simply that beaching a ship in Bangladesh requires less paperwork. Nevertheless, the requirements in India led to more tankers, which inherently pose a greater fire hazard, to be beached in Bangladesh rather than in India. When Bangladesh decided to demand a safe-for-hot-work certificate, tankers have started to go to Pakistan instead.

An important decision by the Bangladesh Supreme Court was taken in the MT Enterprise case<sup>27</sup> in 2009, in which the Court insisted that ships could only be imported into Bangladesh after an environmental clearance had been carried out. It noticed that none of the Ministries were monitoring environmental compliance and that, on the contrary, the Ministry of Shipping was more interested in increasing the number of vessels beached in Bangladesh. As a result of this petition, the shipbreaking yards' operations were shut down for several weeks. The court order also asked the Government of Bangladesh (GoB) to develop sector-specific rules that take into account the Basel Convention. Both the Ministry for the Environment and the Ministry for Industry have presented different sets of rules, which are still pending before the Court for approval. In 2011, the GoB officially recognised the sector as an industry.

Both India and Bangladesh have legislation in place to regulate the shipbreaking industry, even though it is not rigorously enforced<sup>28</sup>. However, petitions to the Courts have raised the issue of non-compliance by both the industry and the authorities, and have been able to increase the pressure to address the shipbreaking problem.

<sup>22.</sup> http://www.elaw.org/node/1400

<sup>23.</sup> The relevant national legislation which covers shipbreaking are the following: Explosives Act 1884, Petroleum Act 1934, Factories Act 1949, Customs Act 1962, Water (Prevention and Control of Pollution) Act 1974, Explosives Rules 1983, Environment (Protection) Act 1986, Environment (Protection) Rules 1986, Manufacture, Storage and Import of Hazardous Chemicals and Chemical Accidents Rules 1989, Environment (Siting for Industrial Projects) Act 1999, Hazardous Materials and Wastes Rules 2002, Petroleum Rules 2002, GMB Rules on Shipbreaking 2006.

 $<sup>24.\ \</sup>mbox{For a summary of Indian regulations see Kumar, pp. 7 and following.}$ 

 $<sup>25.\</sup> http://www.advocatekhoj.com/library/judgments/announcement.php?WID=2340$ 

<sup>26.</sup> Explosives Act 1884, Petroleum Act 1934, Merchant Shipping Ordinance 1983, Bangladesh Environment Conservation Act 1995, Import Policy Order, Labour Law Act 2006, Ship Breaking and Ship Recycling Rules 2011.

<sup>27.</sup> High Court in Writ Petition No. 7260 of 2008

<sup>28.</sup> See http://www.shipbreakingplatform.org/south-asian-policy/.



# 5. CURRENT OUTLOOK — ENVIRONMENTAL, HEALTH & SAFETY CONDITIONS IN GADANI

This chapter presents the current situation in the shipbreaking yards in Gadani based on the analysis of primary data retrieved through yard observations, interviews of workers and consultation with key stakeholders including the Pakistan Ship Breakers Association and trade unions present in the shipbreaking yards. Diagrams marked "(0)" are based on the statistical analysis of the yard observation forms, diagrams marked "(l)" on the interviews with workers.

# 5.1 GENERAL TECHNICAL FEATURES AND PROCEDURES

The shipbreaking yards are located around 50 km north-west of Pakistan's major city Karachi along a beach stretch close to the small settlement of Gadani in the Province of Balochistan. The yards are aligned next to the "Ship Breaking Yard Road" and operate on a stretch of sandy beach with a relatively small tidal range. Office buildings are located next to the road. According to the Pakistan Ship Breakers Association (PSBA), 80% of the plots belong to waderas (local landlords) and 20% to the Balochistan Development Authority (BDA). The shipbreaking companies lease the plots. At the time this study was completed, there were 38 economic operators who were leasing and running the business of 68 plots. One plot measures 4,000 square feet and each operator occupies an average of three plots. At least two plots are needed to beach a ship. The yard operators are rallied in the Pakistan Ship Breakers Association (PSBA), founded in 1979, in which all operators are members. As already reported by the World Bank, many yards are integrated both with re-rolling mills and construction companies.

The Chairman of the PSBA explained that the average time to dismantle a ship is 90 days. According to the PSBA, around 99% (in weight) of the material recovered from end-of-life vessels is made up of scrap steel, other metals and materials such as wood. Around 400 truckloads of scrap steel are brought to Karachi every day. Most of the scrap steel from Gadani is destined for re-rolling mills in Karachi<sup>29</sup>.

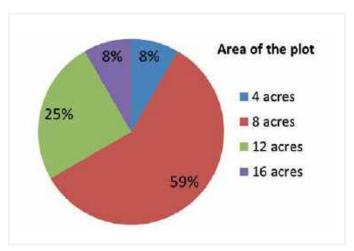
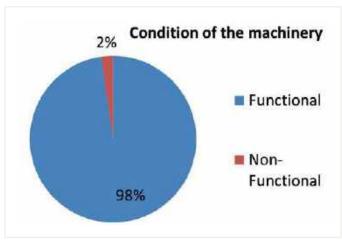


Figure 5. Plot sizes leased to different contractors (0)

The operations at Gadani are partly mechanised. Cranes are used to lift steel parts from the beaches to the trucks. However, during the primary cutting of the ships, the gravity method is applied, that is, larger steel parts such as entire sections of the ships are not lifted by cranes, but are cut off and dropped from the ship onto the beach or into the water.

The general infrastructure in the area of the yards is poor: unpaved roads, no steady electricity supply, no telephone line and no public supply of drinking water. Electricity is produced by generators and water needs to be brought in tanks from the next town, called Hub. There is no treatment plant for sea water. Electrical power outages (locally known as "load shedding") are a major limiting factor for the productivity at the yards, according to the operators, as they lead to delays. Moreover, power outages pose a security risk to the workers who, for instance, have to work in the dark inside a hull.

According to the PSBA, the infrastructure has not changed in the last 30 years. The industry complains that the government does not invest in infrastructure, despite the fact that the industry pays taxes as well as rent to the BDA. Industry representatives claimed that they were willing to pay higher rents if the government provided a better infrastructure. The PSBA is aware of the fact that the infrastructure in Gadani cannot be compared to Turkey, a ship recycling location which has been used as a model for Pakistan by some organisations willing to improve the situation there, such as the Secretariat of the Basel Convention. The industry argues that the Turkish standard could be reached if the government was willing to invest. The PSBA stressed that the yards in Gadani had underground pipes for liquid gas needed during the cutting process, which is safer than the gas cylinders used in shipbreaking yards in India and Bangladesh; however, the researchers have not inspected the gas supply system.



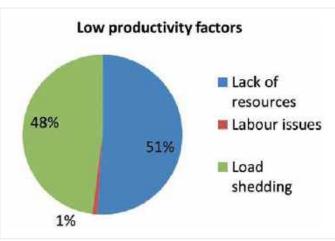


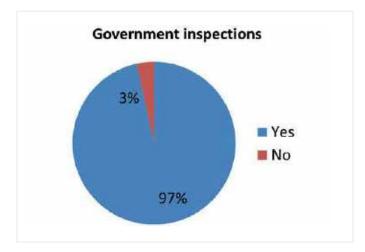
Figure 6. Condition of machinery in the yards (0) Figure 7. Low productivity factors (0)

# 5.2 ENFORCEMENT OF THE LAW, AUTHORISATION AND CERTIFICATION

Whereas the BDA has the responsibility to provide basic infrastructure to the shipbreaking yards in Gadani and leases the government-owned plots, the BEPA is the environmental regulatory body for the province and has to approve an Initial Environmental Examination (IEE) and an Environmental Impact Assessment (EIA) required before permission can be granted for a ship to be imported. According to the operators, the yards are inspected by the authorities (see Figure 8), but there is no record of the frequency and there are no inspection reports. Most inspections were conducted by the BEPA (see Figure 9), as the BDA seems to only inspect its own plots. BEPA is supposed to monitor all plots, both privately and publicly owned. Specific permits, such as a hot work permit to ensure that the workplaces are well equipped and workers dealing with particularly hazardous work are trained, are not required.

Regarding the import of end-of-life vessels, BEPA issues an environmental approval, generally referred to as "No objection certificate" (NOC) for every ship. The PSBA argued that BEPA also asked for a "gas free for man entry" certificate for the IEE; however, it was impossible to verify the existence of such certificates. To the knowledge of the NGO Shipbreaking Platform, Pakistan, unlike India and Bangladesh, does not require a "gas-free for hot work" certificate from the owners and/or the cash buyer before the import of the ship. Therefore, ship owners selling old tankers do not have to bear the costs of cleaning the tanks before the import into Pakistan. As a consequence, Pakistan has become the major destination for old tankers. However, the practice is very unsafe, as gas explosions usually cause severe accidents and workers climbing into tanks where gases are trapped can suffocate, sometimes to death.

The fact that inspections take place and that yard operators seek the approval for every ship says little about how regularly the authorities monitor the operations, if the officials are trained for the inspections, and if they sanction non-compliance. Various stakeholders reported that the BEPA, located in the provincial capital Quetta about 650 km away from Gadani, lacked the resources for regular inspection of the shipbreaking yards. Reportedly, NOCs are issued without the ship being boarded for inspection. Discussions with stakeholders left the impression that the compliance with the BEPA rules was more a procedural formality, whereas the real implementation of an IEE could not be observed during the data collection.



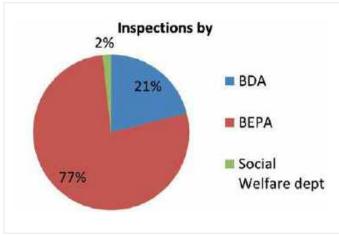


Figure 8. Past inspections by authorities (0)
Figure 9. Inspections by different authorities (0)

For reasons of competitiveness, many economic operators have adopted international certification schemes, mainly ISO 14001 (about 86% of working plots). However, it is unclear if the yards' adherence is based on self-certification only or if they use independent certifiers<sup>30</sup>, making the certification schemes potentially worthless. And even if yards were audited for certification, procedural standards do not specify the performance of a yard.

# 5.3 ENVIRONMENTAL PROTECTION AND HAZARDOUS WASTE MANAGEMENT

### **SPILLS AND LIQUID POLLUTANTS**

During the dismantling of ships on the beaches, oil spills and the release of other pollutants into the sea and on the beaches poses a danger to the workers and the environment. There is no impermeable flooring in the yard area and no drainage system. The PSBA as well as the "Labour Union" claim that no pollutants are

released into the sea. The PSBA stated that waste oils are pumped out from the vessels, and that the oil residues and bunker fuels from the beached ships are stored and re-sold as second-hand fuel, for instance to brick factories. This practice is also however damaging to the environment because waste oils are burned without harmful exhaust fumes being filtered. During the visit to the yards in December 2012, small oil spills on the beaches were recorded, and sewage and oily water were stored in open pools on the yards. Gadani does not have a waste water treatment facility, therefore the fate of waste water, oily water as well as of sludge and waste oils is unclear. The National Trade Unions Federation (NTUF) reported an oil spill from the oil tanker "Wenjiang" in 2012, which was dismantled at yard No 54. According to the NTUF, the oil spread in a one-kilometre radius. They reported that more than 500 workers complained about skin allergies and acute respiratory problems due to widespread oil smell31.

#### **HAZARDOUS WASTES**

Other than liquid pollutants, large amounts of various hazardous materials are likely to accumulate in Pakistan if the prevailing practices continue over the next 20 years<sup>32</sup>. Provisions for the sound management of hazardous wastes, such as asbestos, PCBs or heavy metals, are non-existent in the Gadani shipbreaking yards, as well as in the next town, Hub. There are no procedures in place to handle hazardous wastes during removal from the ships and there are no storage facilities on the yards. Moreover, there is no waste treatment or disposal facility, for example no proper landfill for asbestos or treatment for PCBs. The claim by the PSBA that heavy metals cannot be found on oil tankers and cargo ships can be interpreted as a lack of awareness with regards to environmental hazards.

The operators of the yards admitted that asbestos is dumped in bags behind the shipbreaking yards as it is one of the few items they cannot re-sell. The BDA does not require a specific procedure for asbestos handling and disposal and there are no guidelines offered by the authorities. The World Bank report already pointed out that the lack of proper waste treatment facilities leads to the "informal disposal on the beaches, on adjacent unused plots, or on other land in the vicinity"<sup>33</sup>. It also stated that the burial of asbestos on-site was a common practice and that the locations were not marked<sup>34</sup>. Moreover, it mentioned that dioxins may be generated in the re-rolling mills when painted steel plates are heated<sup>35</sup>.

The findings of the yard observations are not different from those of the World Bank report: "Some hazardous materials are exposed

<sup>30.</sup> In Indian shipbreaking yards, ISO 30000 certificates have been issued without an in-depth analysis and within two days, which undermines the credibility of the standard

<sup>31.</sup> See: http://www.ntufpak.org/media.html

<sup>32.</sup> For figures see World Bank report, p. 5.

<sup>33.</sup> World Bank (2010), p. 5.

<sup>34.</sup> World Bank (2010), p. 36

<sup>35.</sup> World Bank (2010), p. 5.

during dismantling and are managed (or spilled and spread) locally, but a considerable amount is carried with equipment off the yards. This material may re-enter society in disguise. (...) The material can also travel into the hinterland with the motors, cables, transformers, air conditioning systems, and other items reused in the region. In addition, the ozone-depleting substances (ODS) emitted during ship breaking typically carry considerable global warming potential"36. The findings of the World Bank report are to the point: asbestos is a significant problem; PCBs are still found on older vessels and especially PCB-contaminated cables pose problems; there are no measures in place for ODS collection and management; heavy metals in paint pollute the work environment, and large amounts of oil and oily water is not properly managed<sup>37</sup>. For the World Bank report, yards in Bangladesh and Pakistan were tested with regards to soil contamination, and the results showed that there are deposits of cadmium, chromium, lead, and mercury in both countries38.

# 5.4 WORKING AND LIVING CONDITIONS

### THE WORKFORCE

The number of active workers varies between 12,000 and 15,000 depending on the supply of ships to the yards. According to the PSBA, around 100 workers are needed to break one ship in an average period of three months. For the year 2012, SDPI estimated a workforce of about 125,000 people, including the direct (15,000 in the Gadani yards) and the indirect workforce (approximately 110,000 in 450 re-rolling mills and 650 smelters), which means that up to 850,000 dependent family members rely on the shipbreaking industry.

All of the interviewed workers were male and there are no women working in the shipbreaking yards directly. Most of the workers come from the Khyber Pakhtunkhwa Province (52,2%), especially Swat valley, the province with the second-lowest Human Development Index of all Pakistan's provinces. The rest of the workers come from Punjab (25,7%) and the province where Gadani is located, Balochistan (14,6%), as well as neighbouring Sindh (6,0%). Most of the workers have been working in the yards for a short period of time, between one and five years (see Figure 11). Workers reported that they usually stay with one yard; however, this is not a requirement to find employment with the yards. They travel home every four to six months to see their families.

The majority of workers are illiterate (58% of all respondents, with 61% in the youngest age group of 18-30 year olds). 36,5% have finished primary or middle school, and less than 5% of the workers have a secondary or higher education. Whereas child labour is still a major problem in Bangladeshi shipbreaking yards, the researchers for this study did not witness child labour taking place in Pakistani yards. However, some young workers responded that they had been working in the yards for many years, that is, when they were as young as 14 years old.

The World Bank report also states that the industry employs virtually no women or children and that up to 75% of the total workforce is made of migrant labourers<sup>39</sup>. The majority of workers choose to work in shipbreaking yards, as they are unaware of other alternatives available to them. Around one third of the workers were referred to the yards by relatives or acquaintances.

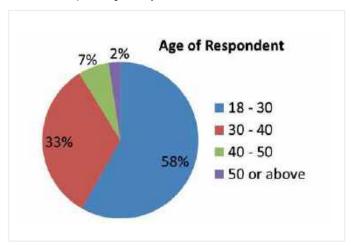


Figure 10. Age of respondents (I)

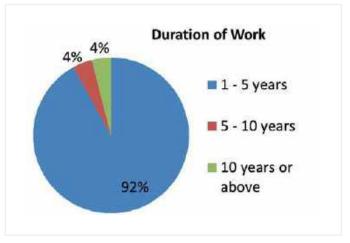


Figure 11. Duration of work at the yards (I)

<sup>36.</sup> World Bank (2010), p. 4.

<sup>37.</sup> World Bank (2010), p. 5.

<sup>38.</sup> lbid.

<sup>39.</sup> World Bank (2010), p. 25.





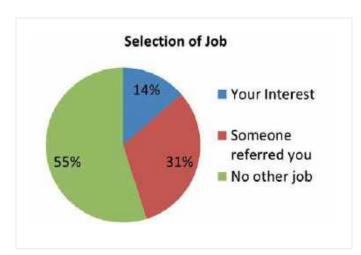


Figure 12. Decision for the job (I)

### LIVING CONDITIONS

Most workers are supposed to make their own housing arrangements in the vicinity of the yards. They live in shanties along and around the road behind the yards which are made out of plywood from the ships. The shanties are not connected to steady electricity supply and several workers share accommodation. There were contradictory statements regarding rents: some accommodations seem to be free of charge, whereas other workers need to pay a rent to local landowners. Currently, there is no plan in place to create housing for the workers, although the World Bank report mentioned a planned scheme to provide 1,000 housing units to workers<sup>40</sup>. While most workers in Gadani have left their families behind in their home regions, around 100 families live next to the yards according to the NTUF.

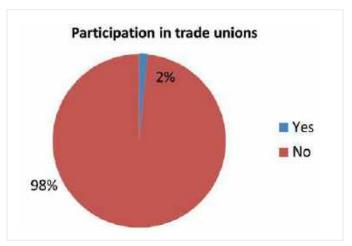
There is a lack of proper sanitation and there is no public supply of safe drinking water. Most workers receive drinking water from tanks, which has been reported to be unclean. The trade unions demand a water filter. According to the agreement between the "Labour Union" and the PSBA, every plot should have a water filter installed and have a wash room, and there should be a canteen on every fifth plot for workers to eat. The implementation of these demands could not be verified.

In interviews, workers reported that they need to spend around 2,200 PKR on food every month (around 22 USD), which is around 20% of their income for the lowest wage groups. The workers prepare their own food to save money. Along the road behind the yards, there are small roadside shops and tea stalls. The yard

owners usually build a mosque on their plot which the workers may use. However, there is no further infrastructure as the shipbreaking yards are located in a remote area.

### TRADE UNIONS REPRESENTATION41

The large majority of workers are reluctant to get involved in a trade union (see Figure 13). There has been no poll to find out why this is the case. Furthermore, the majority prefers a concept of consensus to nominate union leaders instead of elections, which may favour nepotism instead of democratically elected representatives. Currently, there are two trade unions that compete with each other.



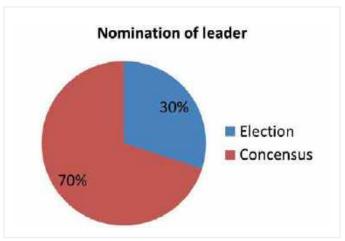


Figure 13. Participation in trade unions (I) Figure 14. Nomination of union leaders (I)

<sup>40.</sup> World Bank (2010), p. 26.

<sup>41.</sup> By trade union we understand an organisation of workers that aims, amongst others, at achieving higher pay and better working conditions and whose leadership bargains with the employers on behalf of union members. In Pakistan, both the terms 'trade union' and 'labour union' are used.

The Ship Breaking Labour Union Gadani ("Labour Union") was recognised as a trade union in 1981 and as a collective bargaining agent in 1986. Tripartite meetings are held between the government of Balochistan, the PSBA and the "Labour Union". According to the information given by the latter, wage negotiations are held every two years. It presented an agreement reached with the economic operators in 2011 to the researchers. Also the World Bank report stated that the workers had organised in a "Ship-breaking Labor Union", which for instance in February 2009 successfully campaigned for a 40 % wage increase, better working conditions, and improvements to medical facilities<sup>42</sup>.

The Labour Union itself holds monthly meetings involving trade union representatives. The union members meet once a year. The union receives 3,000 PKR for each ship beached in Gadani from the yard operators in order to finance its activities. Workers pay a membership fee of 20 PKR per month. Its annual budget is around 100,000 PKR. It runs an office on a plot in Gadani as well as in Hub. It is not linked to the international trade union movement.

According to the Ship Breaking Labour Union, it brings different claims to the court with an average of one case per month. Moreover, the union maintains an ambulance. The last strike was organised in 2010 and resulted in a 40% increase in salary, according to their statement. The next negotiations on wages were supposed to be held in June 2013. So far, the union does not offer training to workers, but it stated that it would be interested in doing so. Representatives argued that there should be a regular health screening for workers by the government to detect diseases.

The "Ship Breaking Democratic Workers Union" under the National Trade Union Federation (NTUF), with its head office in Karachi, has received its registration as a trade union; however, it is not recognised by the PSBA. NTUF had first tried to register the union in 2008, but was rejected in 2009. In the same year, the union was charged with holding an illegal strike: five people were arrested and 70 were injured. The union argues that "maintenance of law and order" was used as an argument to prevent assemblies and that leading unionists did not receive jobs in the shipbreaking yards anymore after they had taken part in the demonstrations. The NTUF has filed a case in the High Court of Balochistan against a police official claiming that he prevented an assembly of workers. The NTUF argues that trade unions are stronger in India than in Pakistan and Bangladesh.

The NTUF has more than 80 affiliated unions in Pakistan, representing around 100,000 workers. It is affiliated with the global union IndustriALL (formerly known as IMF or International Metal-

workers' Federation). The "Democratic Ship Breaking Worker's Union" is one of the newest unions in the NTUF with around 250 members (as of December 2012). It has opened an office next to the shipbreaking yards in Gadani, not within any specific plot. It is open to workers from 8am to 5pm with one office staff. Members pay 50 PKR per month and the union said it does not receive funds from the yard owners.

Since 2009, the NTUF has filed 32 cases in the labour court in Quetta concerning the compensation for relatives in the event of a death. All cases led to compensation. The yard operator pays 300,000 PKR in compensation for the death of a worker and the government another 500,000 PKR. The NTUF also filed 30 cases in the workers' welfare department in Islamabad.

The NTUF describes its competitor, the "Labour Union", as being under the influence of contractors and yard operators. The World Bank report refers to information that described the "Labour Union" as a "pocket" union, composed of "loyal" workers, that has been put in place by the shipbreakers to rival another union, thus denying true worker representation<sup>43</sup>.

#### WORK CONTRACTS

Most workers have short-term contracts. The majority of them are hired on daily wages while some technicians receive contracts for up to three or six months or — in rare cases — long-term contracts. The workers' situation is weakened by the absence of written contracts, which only exist in a few cases. The NTUF argues that every worker should be given an appointment letter and be registered with social security, which is mostly not the case. The workers are hired by "contractors", who are middle-men between the workers and the operators of the yard and who take care of the recruitment. The "contractors" often belong to the local elite. Therefore, workers have no direct employer-employee relationship in the yards. Moreover, "contracted labour" is more difficult to organise in unions than permanent workers.

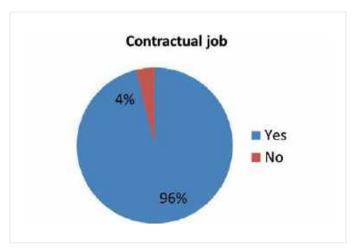


Figure 15. Workers hired by a "contractor" (I)

<sup>42.</sup> World Bank (2010), p. 26.

<sup>43.</sup> World Bank (2010), p. 26.

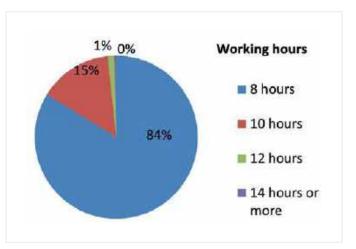


Figure 16. Categories of contracts (I)

There is no insurance or pension scheme for workers who are not permanently employed. According to the agreement between the "Labour Union" and the PSBA, ship welders who work in especially dangerous conditions are entitled to a group insurance that should cover accidents. Moreover, the yard owners should pay into the welfare system, which they do not as most workers are not registered for social benefits, according to the NTUF. Therefore, the contractor system undermines workers' social welfare. According to the law, even if a worker is employed for one day only, the employer would have to register him for social security benefits.

### **WORKING HOURS**

Workers mostly work eight hours a day, from 7 am to 4 pm, with a one-hour lunch break. Workers take their lunch in roadside eateries. According to different stakeholders, there are no night shifts. The observance of standard working hours reflects the regulations under the Factories Act. However, the NTUF reports that work regularly continues until 7 pm or even 10 pm. Workers stated that they have no paid holidays and work seven days per week, with a shorter day on Sunday (6 instead of 8 hours). As most do not have permanent work contracts but are hired on the basis of daily wages, they cannot claim a right to paid holidays or weekends.



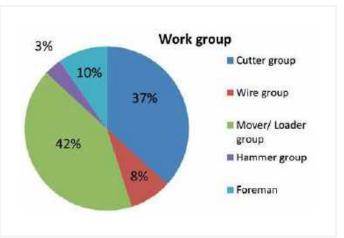


Figure 17. Working hours (I)
Figure 18. Type of work (I)

#### **WAGES AND SOCIAL BENEFITS**

The "Labour Union" and the PSBA agreed on a new wage scheme and other benefits on 14 June 2011. According to the agreement, workers recruited on a daily wage basis earn between 366 PKR (USD 3,50) for a "helper" and 850 PKR (USD 8) for an "oil worker". A foreman earns 2,000 PKR (USD 18,50) a day. Mechanics such as crane or winch operators are usually employed on a permanent basis and earn from 30,600 PKR (USD 290) a month. In June 2013, the minimum wage was raised to 10,000 PKR per month. This means that the lowest tier of workers can reach the minimum wage level if they work nearly every day. According to the NTUF, overtime is paid and if they work on Sundays, they receive a double pay. In interviews, the workers reported that their wages were paid every two weeks. Their income is below the threshold for taxable income in Pakistan.

According to the agreement with the PSBA, workers should receive a free meal every day. Workers with children should receive an extra benefit of 500 PKR per month and per child. Permanent workers receive an annual bonus and should also be registered for pension benefits. The implementation of all provisions of the agreement could not verified by the researchers.

#### **COMPENSATION**

Workers' families seem to receive compensation in the case of the death of a worker. Compensation for injuries is not regularly paid according to the NTUF. For major injuries, workers reported that compensation was paid. The type and amount of compensation varies from owner to owner and the gravity of the injury. According to the agreement between the "Labour Union" and the PSBA, the relatives of a worker who died in an accident receive 300,000 PKR. If a worker is paralysed, he should receive a one-time payment of 50,000 PKR. If a worker dies during his engagement at a yard for natural reasons, the family shall receive 150,000 PKR. It is unclear, whether these sums are paid in all cases and if they are only paid to members of the "Labour Union" or also to workers who are not unionised. The workers said that in case of major injuries, free treatment (89% respondents) and sometimes leave with salary (11% respondents) are provided for the recovery period. Compensation is provided in cash.

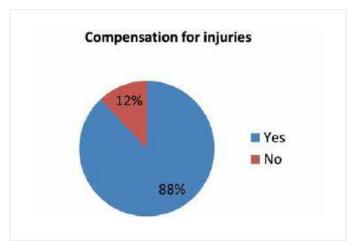


Figure 19. Compensation practice for injuries (I)

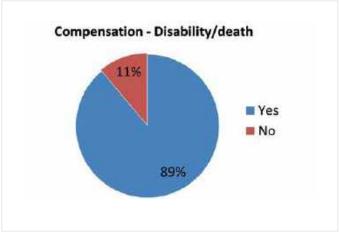


Figure 20, Compensation for disability/death (I)

## 5.5 HEALTH AND SAFETY PROVISIONS

### USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment (PPE) is barely used in the Gadani shipbreaking yards. Shoes, goggles and hats are given to workers when they join the yards. The workers in Gadani usually wear leather shoes, but are rarely provided with proper safety shoes. Moreover, other PPE such as helmets are not used due to the heat and the yard operators do not enforce the use of PPE. Workers indicated that heat and humidity make wearing gear difficult. The PSBA declared that gloves, shoes, and helmets were handed out, but also admitted that workers sometimes refused to wear them.

Respiratory protection and masks are not available and according to the trade union, workers complain about exposure to fumes. The torch-cutter usually uses simple goggles. Workers on the ships do not wear climbing gear while working at great heights. The NTUF claims that any additional PPE needs to be purchased by the workers because the employers don't provide it.

In particular, the lack of safety measures during asbestos removal is worrying. Workers remove asbestos when they are only protected with gloves and equipped with a hook. Areas of asbestos removal are not sealed off and the workers do not wear proper masks. Apparently, workers cannot distinguish between glass wool and asbestos, as both are referred to as "khujli", which literally translates as "itches" and indicates the skin irritation these materials cause.

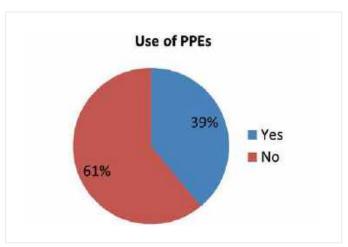


Figure 21. Use of PPE in yards (0).

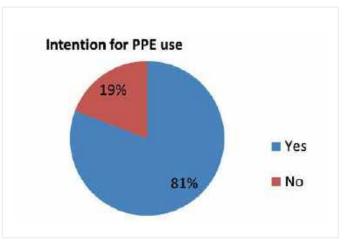


Figure 22. Willingness to use PPE if provided (I).



### TYPICAL INJURIES AND REPORTED CASUALTIES

The typical injuries, as shown in Figure 23, are cuts (35%) and burns (31%). Many of these injuries are preventable and result from non-compliance with provisions for the use of PPE. During a discussion with workers on the yards in December 2012, one worker showed a missing toe, probably the result of a lack of PPE such as safety shoes, while another one showed a crushed hand. Bone fractures, the third most common injury, may be correlated to unsafe operations and non-compliance with standard safety procedures. Moreover, injuries can also result from poor training of the workforce and the foremen, who are aggravated by the temporary hiring of workers and the impossibility to train workers on the long term. The development of procedures, as well as an improvement with regards to mechanisation of dangerous operations, could help prevent accidents.

In general, not much information is available about occupational health and safety as well as accidents and death. The NTUF recorded 12 deaths in the Gadani shipbreaking yards in 2012. Most workers were killed by falling from heights, were crushed under steel plates or huge metal pieces, in explosions or fire, or by suffocation. Four deaths recorded in June 2013 exemplify the dangers for workers in the vards; while one worker died from falling from a great height into a tank, three were killed in an explosion inside the hull of a ship. However, there is no complete record of casualties, injuries, permanent damage and occupational diseases caused by activities in the shipbreaking yards - therefore, the full impact on human health remains unknown (see Figure 24). Especially the long-term effects caused by the exposure to hazardous materials, such as asbestos, is hard to foresee. Despite the fact that the NTUF recorded several fatal accidents in 2012, including explosions and fires, the PSBA claimed there were no such casualties, which raises questions regarding the consistency and reliability of the information made available.

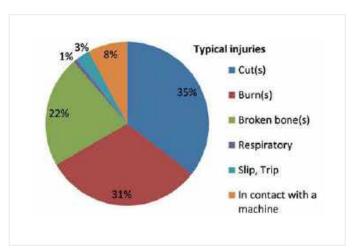


Figure 23. Typical injuries in the yard (0)



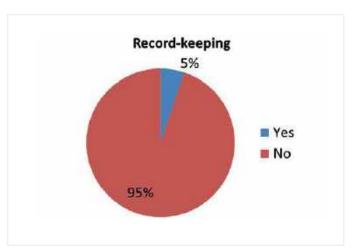
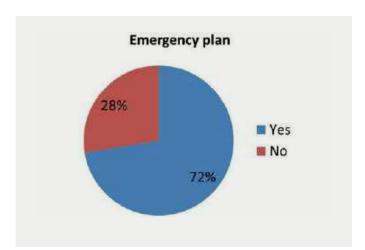


Figure 24. Documentation of injuries, illnesses and deaths (0)



### EMERGENCY RESPONSE AND MEDICAL CARE

Figure 25 shows a positive picture regarding emergency plans, which nearly three-quarters of the yards that were operating claimed to have put in place. However, in reality provisions are either non-existent or only consist of non-functional, outdated, and old-fashioned fire-fighting equipment. Workers injured in the hull of a ship need to be carried across the beach by fellow workers. More than half of the yard operators claimed that their workers were trained for emergency situations and with regards to extinguishing fires. The effectiveness of these trainings needs to be verified as well as the frequency of such trainings, as the research has shown that workers are temporary and have been working in the yards for 1 to 5 years only.



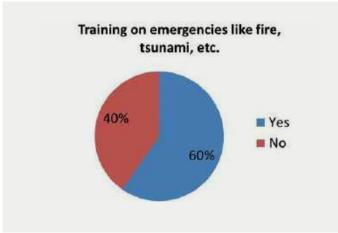
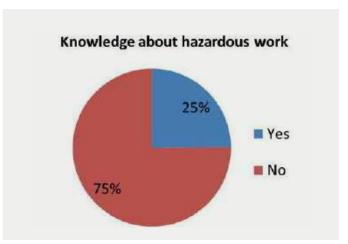


Figure 25. Emergency plans (0)
Figure 26. Training on fire,tsunami, etc. (0)

When asked, the workers said they were satisfied (71% respondents) with the provision of a doctor at the yards and free medical aid in case of an emergency. However, there is only one ambulance available for all of the yards and there is no health or emergency unit for more than 10,000 workers. Apparently, first aid boxes are present in most of the working plots, but this does not seem to be sufficient to provide proper medical aid in such a dangerous industry. The high risk of accidents, fire and explosions demand that a hospital be accessible nearby. However, the next hospital equipped to take care of injured workers is in Karachi, about 50 km away, which puts the lives of injured workers in danger.

### TRAINING AND AWARENESS

Apart from training on emergencies, it is unclear what else the training consists of. Moreover, the quality of trainings and of capacity-building could not be verified as the training efforts are not recorded in any plot in Gadani. The NTUF claims that no training is provided. Only one fourth of the workers claim that they are aware of the hazards at their workplace. There is no training centre available.



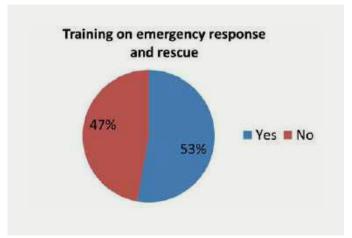


Figure 27. Knowledge about hazardous work (I)
Figure 28. Workers' Training on Emergency & Rescue (I)

# 5.6 FURTHER FINDINGS PROVIDED BY OTHER STAKEHOLDERS

The following summaries provide observations given by various stakeholders in meetings in December 2012.

#### **ILO**

So far, working conditions in shipbreaking have not been raised in tripartite consultation between the government, trade unions and workers. The issue was raised with the former Federal Ministry of Environment in April 2011 together with UNDP and UNIDO; however, responsibilities are different now after the decentralisation process. The provincial government of Balochistan has argued that it intends to upgrade the yards. Yet, so far there is no such policy or plan of action. The ILO runs both the "Decent work programme" (2010-2015) and a programme on "green jobs", focused on the transformation of economies, enterprises, workplaces and labour markets into a sustainable economy providing decent work. The meeting with the ILO country director took place in the ILO's Islamabad office on 10 December 2012.

## **UNDP**

Several government agencies and authorities, both at the federal and provincial level, share responsibilities for making shipbreaking cleaner and safer; however, there is little communication and cooperation between them so far. Additionally, there are several international organisations that play a key role, including the ILO, UNDP, UNIDO and UNEP. Therefore, UNDP Pakistan has advised to strengthen communication between these stakeholders. The new Environmental Ministry (Federal Ministry for Climate Change) should be consulted on the matter as well. Moreover, it should be verified if shipbreaking yards could qualify for funds from the Global Environment Facility (GEF)<sup>44</sup>. The meeting with the UNDP assistant country director took place on 13 December 2012 in their Islamabad office.

## **WWF PAKISTAN**

Representatives of the WWF Pakistan provided information on the ecosystem around the shipbreaking yard, especially with regards to endangered species and the impact of pollution from the yards. The area around Gadani is an ecologically important and sen-

sitive area, meaning it is particularly vulnerable to the harms of shipbreaking. The mangroves in Sonmiani, north of Gadani, host an important cetacean population. The area is also important for the formation of coral. Kaio Island near Gadani is rich in biodiversity with numerous species that inhabit the coral reefs. Also, the area around Gadani was an important fishing area, but due to pollution fishing activities came to a halt to the south of Gadani. Currently, the authorities have invested in a new fishing harbour in Gadani. The meeting with WWF Pakistan took place on 18 December 2012 in the Karachi office.

#### **IUCN**

Similarly, the International Union for Conservation of Nature (IUCN) agrees with the need to make shipbreaking a clean and safe industry. Also the IUCN mentioned the possible threat to the habitat of endangered species in the vicinity of shipbreaking yards. Representatives reported that when shipbreaking first boomed in 1970s, pollution and a rapid growth in the population close to the yards led to a reduction in marine life. The meeting with the acting country representative took place on 19 December 2012 in Karachi. One aim of IUCN Pakistan is to strengthen EPAs. They need more resources, as they are understaffed and are only based in cities and towns. There is no office close to Gadani; hence the regular observation of the yards and the issuing of NOCs are problematic. Moreover, IUCN expressed the need for regular studies and samples to record pollution, oil spills and hazardous wastes. BEPA should develop a local action plan for Gadani based on the Basel Convention and its Guidelines and regularly monitor the implementation.

## PAKISTAN HUMAN RIGHTS COMMISSION

The Pakistan Human Rights Commission argues that occupational health and safety (OHS) rules are not respected. Regular inspections should be conducted by the labour department under the auspices of the BDA and the Factories Act should be enforced. The labour department should ensure social security registration for pension benefits. Most of the workers are not aware of their rights and because of the lengthy procedures required by lawsuits they decided to drop their cases. Since the decentralisation, labour issues have become a provincial matter, except for welfare benefits and pension ("old age benefit"), which remain under federal competence. The Commission said there is a lack of awareness of labour law amongst judges and magistrates at the Hub court.



## 6. THE WAY FORWARD - POLICY RECOMMENDATIONS

## GENERAL RECOMMENDATIONS

In order to make ship recycling clean and safe globally, all stakeholders including governments in ship-owning and ship recycling states, the ship owners themselves and their service providers such as brokers, cash buyers and consultants, as well as the ship recyclers have to accept their share of responsibility. In particular, ship owners need to ensure that their end-of-life vessels are precleaned and have a proper IHM on board as a basis for a ship recycling plan. Moreover, the ship owners need to demand clean and safe recycling and prevent ship dismantling at locations with substandard environmental protection and poor workers' safety. Similarly, also the ship-owning countries need to prevent substandard practices, and to assist shipbreaking countries in upgrading the yards and the regulatory framework. Ship owners as well as the major ship-owning countries, need to encourage shipbreaking countries to create a 'level playing field' in terms of environmental regulations and labour conditions instead of encouraging the race to the bottom.

## RECOMMENDATIONS FOR STAKEHOLDERS IN PAKISTAN

The NGO Shipbreaking Platform and the Sustainable Development Policy Institute recommend the following actions to the Federal and Provincial Governments, the shipbreaking industry as well as the relevant international organisations:

## GREEN SHIP RECYCLING STRATEGY AND SECTOR-SPECIFIC REGULATION

(1) The Federal Government together with the relevant provincial authorities should develop and implement a «Green Ship Recycling Strategy», that is a cross-departmental policy to formalise the sector and to allow for the much needed change towards clean and safe ship recycling off the beach and compliant with interna-

tional and domestic law, based on guidance offered by the Basel Convention Secretariat, the ILO and the IMO.

(2) In order to develop this strategy, the Federal Government and the provincial authorities should seek advice from the international institutions, in particular the Basel Convention Secretariat, the ILO and the IMO, and build partnerships to finance the needed investments in infrastructure. As the investment needed for compliance with international standards, especially with regards to waste management, is beyond the financial capacity of the shipbreaking industry in Pakistan, development banks or the Global Environment Facility (GEF), for example, could assist Pakistan in altering its shipbreaking practices to become safe and clean.

- (3) The «Green Ship Recycling Strategy» should provide a roadmap for investments in the technical infrastructure of the shipbreaking yards to allow for the transition towards safer methods off the beach including:
- structures to guarantee the full containment of pollutants;
- impermeable floors and drainage system;
- heavy lifting equipment;
- electricity and water supply.
- (4) The Government of Pakistan should cooperate with the other shipbreaking countries in South Asia India and Bangladesh in a joint effort to exchange experience and alter shipbreaking practices so that competitiveness is not based on the lowest standards, but that instead a 'level playing field' is negotiated between shipbreaking countries.
- (5) Taking into account already existing legal provisions, the Federal Government together with the Provincial Government need to develop a sector-specific «Regulation for Green Ship Recycling in Pakistan». The new Regulation needs to accommodate the overlaps in responsibilities between the national and provincial level with regards to legal requirements and the institutional framework after the 18th amendment to the Constitution of Pakistan (the decentralisation) and needs to clearly define the competent authorities' roles.

- (6) The new regulation should be based on a comprehensive review of existing legislation and a gap analysis, and should allow for the implementation of international obligations under the Basel Convention as well as the future Hong Kong Convention.
- (7) The new regulation needs to set out the authorisation criteria for facilities, to establish a set of rules for facility operation, including the procedures to obtain permits for different kinds of hazardous work, clearly define which authority needs to issue certificates and approvals, and set up an effective facility inspection regime to ensure that shipbreaking only occurs in accordance with the regulation's requirements.
- (8) With regards to hazardous waste management, the "Green Ship Recycling Strategy" needs to include a plan to establish:
- a reception facility for operationally and non-operationally generated waste at a port close to the yards with a mandatory port call for all imported end-of-life vessels to perform cleaning activities such as cleaning cargo tanks, emptying bilge tanks, paint and chemical stores, and unloading waste oil and surplus fuel;
- waste storage on the yards;
- waste reception facilities such as a sanitary landfill;
- disposal treatment facility for hazardous waste such as PCBs;
- a system to track hazardous waste and to avoid the repartition into the market:
- establishment of a testing laboratory with portable equipment;
- regular monitoring of the presence of contaminants in soil, water, sediments and air.
- (9) There is an immediate need for training, awareness-raising and capacity building for workers to ensure safe operations. The government should provide a training centre and seek the assistance of the Basel Convention Secretariat and ILO for further guidance on materials and the organisation of the training<sup>45</sup>.
- (10) With regards to workers' rights, health and safety and living conditions, and irrespective of trade union membership, the authorities need to accommodate for:
- the immediate implementation of the applicable laws relative to labour rights, notably the Factories Act 1934, the Industrial

- and Commercial Employment Ordinance 1968, the Industrial Relations Ordinance 2002, as well as relevant provisions of the Pakistan Constitution and the Pakistan Penal Code;
- the immediate improvement of workers' living conditions including supply of drinking water and proper sanitation;
- the introduction of occupational health and safety procedures;
- the enforcement of the use of adequate PPE;
- a health care system for the workers including rapid access to a hospital;
- the availability of a medical insurance for workers;
- an adequate system for emergency response;
- the documentation of casualties, injuries, damages and occupational diseases and effective record-keeping;
- the provision of contracts or letter of appointments for workers and their automatic registration for social benefits.
- (11) With regards to the dangers of asbestos, the sector-specific regulation needs to include strict requirements regarding OHS standards during removal, storage and disposal of asbestos to make sure that workers are not harmed and that elements containing asbestos cannot be re-sold. There is a need for regular medical check-ups. It is advisable to introduce a federal bill on asbestos safety.
- (12) The responsible authorities need to monitor the implementation of laws and have enforcement mechanisms in place. This includes a training programme tailored for the designated officials including the judiciary. Compliance needs to be monitored especially with regards to:
- workers' registration for social benefits;
- provision and use of personal protective equipment (PPE);
- application of environmental, health and safety procedures;
- use of obligatory on-site pollution control and safety gadgets;
- periodic monitoring of maintenance and improvements of on-site equipment;
- provision of sufficient, improved and satisfactory on-site health care system;
- adequate training status of workers and awareness of hazards;
- maintenance of hazardous waste inventory and disposal.

- (13) The Government of Pakistan should ratify the Basel Ban Amendment and Hong Kong Convention and seek early compliance with the provisions under the latter. Moreover, the Government should ratify ILO Convention No. 187 and enforce all the provisions of the Basel Convention.
- (14) The Government lease agreements with the economic operators should be conditional and binding to ensure that the operators comply with all provisions. The current lease amount is very low compared to the profit margins and should be adjusted accordingly. Both the revenue from leases and taxes should be invested in upgrading the facilities and the surrounding infrastructure.
- (15) The State Bank of Pakistan should issue a directive to commercial banks for compliance with social and environmental safeguard policies and legislation with regards to loans given to the shipbreaking sector.
- (16) The Federal Government should support a study to define the level and distribution of contamination in and around the shipbreaking yards, and develop an inventory of hazardous wastes (e.g. for the unmarked asbestos dumping grounds). It should identify "hot spots" that need to be cleaned up. It can seek the international organisations' expertise and support for this task. The SBC (UNEP) has started a survey in that sense and the Federal Government should make sure they cooperate and access the information gathered.
- (17) Both the Federal and Provincial Government need to promote unbiased research on the working conditions and the environmental impact of shipbreaking. They need to allow for transparency and enhance civil society involvement. Moreover, they should embrace the active participation of trade unions and promote their independent and democratic structures.



PAKISTAN SHIPBREAKING OUTLOOK

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PAKISTAN SHIPBREAKING OUTLOOK

## **APPENDIX 1**

## FACTS AND FIGURES: WHY END-OF-LIFE VESSELS ARE TOXIC

End-of-life ships can contain various amounts of toxic materials in their structure, which need to be properly located, identified, removed and disposed of. Because of the lack of proper waste reception facilities, training for workers, and cooperation from ship owners to provide the necessary documentation, toxic waste from shipbreaking contaminates the coastal areas and exposes the workers to hazardous substances. Also the local population is at risk when ship parts are sold on the second-hand market.

Asbestos is one of the most common and most hazardous materials found on board ships. Because of its resistance to heat, asbestos can be found on engine casings, in fire compartments, inside fireproof doors, as sheeting of electrical cables, in sandwich panels in corridors, around boiler casings or exhaust pipes, or in the form of calcium silicate shells, asbestos rope and asbestos fabric, in friction materials such as brake pads in lift engines or purifiers, and brake linings in cranes and winches. In South Asian shipbreaking yards, asbestos is removed by hand, with no proper masks, and mostly in the open air. When shipbreaking workers breathe in asbestos fibres, they can contract fatal diseases such as mesothelioma, asbestosis, and lung cancer. Asbestos fibres also cling to the workers' clothes and can contaminate other workers who live in the same shacks. Surrounding communities can be exposed to the asbestos that is hastily dumped in landfills.

Workers are exposed to toxic fumes that can be carcinogenic when they cut steel with blow torches and burn waste and cables. When burned, liquid and solid polychlorinated biphenyls (PCBs) create some of the most hazardous substances known: dioxins and furans. While it is relatively easy to remove liquid PCBs prior to exporting the ship for breaking, the use of solid PCBs in insulation, paints, decking, gaskets, wires and cables is extensive. Plastics and constituents of plastics might produce hazardous fumes during burning. It is still dangerous for workers to be around the cut ship parts even after the torches are turned off, as paints continue to smoulder. Tributyltin (TBT), an aggressive biocide, has been used in anti-fouling paints since the 1970s because it prevents micro-organisms from accumulating on the ships' hulls. It is considered as one of the most toxic compounds in aquatic ecosystems. TBT is responsible for the disruption of the endocrine system of marine shellfish and can damage human health even in small doses. Now banned, it can still be found on older ships. The combustion of oil can lead to the formation of polycyclic aromatic hydrocarbons (PAHs) that accumulate in sediments or tissues of life forms.

Lead, cadmium, zinc, and copper can be found in paints, coating, insulation, batteries and electrical compounds, and mercury can be found in thermometers, electrical switches, level switches and light fittings. Mercury taken at high dosage (such as through a diet based on fish) can deeply harm the nervous system. Long-term exposure to lead, even to low levels, can cause irreversible damage for example to the nervous system and can impair hearing, vision and muscle coordination.

Other health and pollution risks come from the release into the ocean of bilge water. Located in the lowest part of the ship's hull, bilge water can release oil, cargo residues, inorganic salts, arsenic, copper, chromium, lead and mercury to the sea, when pumped out directly into the ocean. Similarly, organic pollution coming from sewage can cause serious health risks for workers if they breathe it in.

## **APPENDIX 2**

#### ABOUT THE NGO SHIPBREAKING PLATFORM

The Platform is the only international NGO that exclusively works on the issue of shipbreaking. The purpose of the Platform, a coalition of 19<sup>46</sup> environmental, human and labour rights organisations, is to ensure safe and environmentally sound dismantling of obsolete vessels by creating a catalyst for reform and finding sustainable global solutions that encompass the principles of human rights, environmental justice, producer responsibility and clean production. It was created in 2005 in order to work effectively in Europe, where solutions are most likely to be born, and to challenge the political clout of the global shipping industry. Due to increased political momentum, partly generated by the Platform itself, the coalition has evolved into a global network, including NGOs based in the largest shipbreaking countries, India, Pakistan, and Bangladesh. Our activities comprise policy contribution on the international level and in the European Union (EU), a corporate campaign, fact-finding, advocacy and legal action in South Asia, as well as research and communication. The Platform has successfully brought to the forefront the intolerable realities of today's shipbreaking practices on the international and European level as well as in the affected countries. The Platform is now globally recognised as the only international advocacy organisation on this critical issue. In recognition of the achievements of our member BELA, and the Platform's struggle, Mrs Rizwana Hasan, member of the Platform's Board, received the prestigious Goldman Environmental Prize in 2009 and the Ramon Magsaysay Award in 2012, widely considered as the 'Asian Nobel Prize'.

The Platform acts as an important source of information on shipbreaking including accidents and casualties on the ground. We work closely with progressive shipping interests to find sustainable solutions. At the international level, the Platform was a strong voice in the International Maritime Organization's negotiations of the Hong Kong Convention and criticised, amongst other things, the failure of the treaty to prohibit the beaching method and present a roadmap for a phase-out of the method. At the European level, the Platform pushed and worked closely with the European Commission on ways to improve legislation, and has also been particularly successful in gaining support from the European Parliament. Our policy recommendations were reflected in the new EU Regulation on ship recycling. In the South Asian shipbreaking countries, our members have been successful in challenging the regulation of the industry in the courts and have encouraged their governments to seek solutions.

















The Corporate Accountability Desk The Other Media





















<sup>46.</sup> Basel Action Network (USA), Ban Asbestos (France), Bangladesh Environmental Lawyers Association - BELA, The Bellona Foundation (Norway), Bangladesh Institute of Labour Studies - BILS, The Corporate Accountability Desk - The Other Media (India), The Center for the Rule of Law Islamabad - CRoLl, The European Federation for Transport & Environment (Belgium), The International Federation of Human Rights - FIDH (France), Greenpeace (Netherlands), The International Ban Asbestos Secretariat - IBAS (UK), Legal Initiative for Forest and Environment - LIFE (India), The North Sea Foundation (Netherlands), The Bangladesh Occupational Safety, Health and Environment Foundation - OSHE (Bangladesh), Prevention of Hazardous Shipbreaking Initiative (Turkey), Sustainable Development Policy Institute - SDPI (Pakistan), Toxics Link (India), Young Power in Social Action - YPSA (Bangladesh) and the Secretariat (Belgium).







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