
Breaking Ships, Breaking Bodies: Public Health at Risk at Gadani

Aniqa Dejjwani¹

¹MBBS - Dow University of Health Sciences, Mission Road 12, Karachi, Pakistan.

¹Corresponding Author Email: aniqadejjwani@gmail.com

ABSTRACT:

Objective: To evaluate the public health consequences of unsafe working and environmental conditions at Pakistan's Gadani ship-breaking yard in Balochistan, Pakistan, and to recommend sustainable, rights-based interventions to safeguard workers and the community.

Methods: A qualitative review was undertaken from secondary sources of data such as PubMed, Google Scholar, online news releases, and reliable blogs. The research did not entail direct human contact, and thus no ethical approval was needed. The critical analysis was centered on recording common health problems, environmental pollution, and policy loopholes in occupational safety.

Results: The results indicated a variety of public health problems, such as nutritional deficiencies, infectious conditions, injuries, long-term toxic exposures (e.g., asbestos, mercury), and mental problems. Hazardous dismantling activities without protective equipment, inaccessibility to clean water and medical services, and inadequate emergency preparedness lead to high mortality and morbidity. The workers are exposed to exploitation because of informal work, no health monitoring, and no compensation or protection by law.

Conclusion: In order to convert Gadani into a safe and sustainable industrial area, the multi-stakeholder, rights-based approach must be implemented. Suggestions are made to enforce international labor standards (ILO Convention No. 155), adopt occupational safety guidelines as of Rotterdam Port, carry out systematic environmental assessments and health monitoring, and increase health and hygiene activities in the community. By concerted effort and focused investment, Gadani can be converted from exploitation to a model of ethical, sustainable industry.

KEYWORDS: *Shipbreaking, Gadani, Occupational Health, Public Health, Environmental Exposure*

INTRODUCTION:

Gadani is a seaside village in the Lasbela District, situated in the southern part of Baluchistan along the Arabian Sea in Pakistan. Not only does it have a coastal channel of about 10 kilometers, but it is also the world's third-largest shipbreaking yard (1). Although it generates Rs 0.3 billion annually, the

ship-breaking yard is on the brink of collapse because of poor regulation, with very little safety oversight and enforcement (2). This report aims to identify the public health issues at the Gadani ship-breaking yard, including occupational risks and environmental contamination, and their consequences on worker and community health due to improper regulatory enforcement. It presents

effective solutions to transform Gadani into a prospering, sustainable haven that genuinely benefits and empowers its people.

FINDINGS:

The research was undertaken through a comprehensive review of literature on platforms like PubMed, Google Scholar, online news platforms, and journalist-by-lined blogs. No ethical approval was needed since the study did not entail direct human interaction and was based only on publicly available information. Major problems noted were high prevalence of nutritional deficiencies, infectious diseases, common injury, heavy metal exposure, gastrointestinal (GI) complaints, mental and social health issues, and heightened susceptibility to communicable illnesses.

Beneath the clang of breaking ships in Gadani lies a silent crisis. With its proximity to the sea, the estimated population of 35,000 relies heavily on the fishing industry as its primary source of food and livelihood (3). The only arable land is ‘Barani land’, which depends entirely on the area's scarce and unpredictable rainfall. Agriculture is largely subsistence-based, where farmers broadcast seeds of drought-resistant crops, such as melons and gourds, directly on the dry soil, relying on natural rainfall for their growth. Therefore, to meet the economic needs, most residents engage in small-scale fishing and cattle herding. However, these livelihoods offer limited nutritional variety and income stability, thus increasing the community's vulnerability to malnutrition. Iron deficiency anemia is one of the most common dietary deficiencies. People usually live close in poorly constructed small wooden houses called ‘jhuggis’ in the local language, lacking basic facilities like clean water and sanitation. Making them vulnerable to all forms of infectious and contagious diseases, the most common being upper respiratory tract infections like pharyngitis. Fungal diseases like scabies are common because of the absence of hygienic sanitation facilities. The absence of hygienic sanitation facilities not only

aggravates health problems but also indicates the larger problem situation of the community, as depicted in Gadani, where the workforce is known for its unhygienic working conditions, non-existence of employment contracts, and very low wages of between Rs 450 and Rs 1450 per day (4). The International Law and Policy Institute recognized the unsafe labor conditions in their report titled “Shipbreaking practices in India, Bangladesh and Pakistan” (1). Workers dismantle massive ships manually using basic tools without protective gear like helmets, gloves, or masks, despite being prone to exposure to toxic substances like asbestos, heavy metals, and oil residues. Occupational asbestos exposure can lead to conditions like asbestosis, characterized by scarring of lung tissues(5). The oil-based drilling cuttings contain carcinogenic contaminants that further harm human health (6). The inhabitants of Gadani are prone to chronic exposure to mercury by both contaminated fish and occupational exposure, which can lead to conditions like weakness, fatigue, anorexia, GI disturbance, and neurological dysfunction (7). This may also contribute to the frequent cases of mental illness as reported by the health care centers. The physical environment is also hazardous, with frequent incidents such as splinter injuries, falling steel plates, explosions, and fires caused by leftover fuel, gases, or pressurized containers on ships during dismantling. This can cause severe burns, blast injuries, and trauma. The absence of emergency medical devices further worsens the situation; the injuries that could have been managed easily quickly become fatal or long-term disability, making Gadani one of the most perilous workplaces in the region. With only primary health care, which is not equipped to offer much more than basic first aid, patients are usually referred to Karachi, 51 km away (8). The adequate treatment is often delayed due to financial and transportation constraints, leading to frequent complications such as gangrene and subsequent amputations.

DISCUSSION:

There is a dire shortage of the enforcement of labor legislation in Gadani, with habitual violations like the lack of personal protective equipment (PPE), poor access to basic and occupational health, and unsafe, unregulated workplaces. Employees are informally recruited without undergoing pre-employment medical checkups or any occupational health surveillance, thus risking their undiagnosed illnesses. In addition, the sector has no standardized safety procedures, emergency response plans, or workers' insurance, putting workers constantly at risk of injury, disablement, or death, without recourse to monetary, healthcare, or legal compensation. This institutionalized disregard sends workers into a vicious cycle of exploitation. It is thus critical that governmental authorities enforce strict international labor and safety standards according to ILO Convention No. 155, which mandates the formulation of a national occupational safety and health (OSH) policy, to ensure that the working environment is inherently safe and devoid of health hazards, to inform workers regarding occupational hazards and preventive measures, and regularly performing health monitoring and workplace checks to maintain compliance (9).

To make Gadani an industrial area that is both sustainable and viable, we must introduce globally established models and then modify them according to local infrastructure, literacy levels, health facilities, and emergency response capacity. For example, occupational health and safety measures like those followed in Rotterdam Port – Netherlands, including the compulsory use of PPE, emergency preparedness planning in coordination, fire drills, and regular health check-ups of the shipbreakers, can be introduced. Besides, periodic environmental monitoring of air, soil, and water quality must be undertaken to identify and prevent exposure to carcinogenic substances. Outreach activities in public health, such as awareness sessions regarding hygiene habits, chemical exposure, and prevention from communicable disease in the local language, must be initiated to educate the workforce in elementary preventive skills. In addition, UNICEF's

WASH model schemes can be implemented to avert waterborne diseases. This includes providing safe drinking water facilities, community toilets, and distributing hygiene kits. Due to the neglected cost of psychosocial distress, there ought to be mental health care services in the form of trauma, stress, and alcohol and drug abuse counseling, which have been effective in other risky working conditions.

The implementation of these strategies in Pakistan will, however, encounter specific challenges, including a weak regulatory framework, economic constraints, low literacy levels, inadequate infrastructure, and cultural and social limitations.

In short, a rights-based, multi-stakeholder model based on international labor standards and tailored to the requirements of Gadani can transform the shipbreaking sector into a model of decent, safe work rather than an exploitation business. It is not a question of compliance but of ethics and economic imperatives to safeguard and enhance workers' lives that compel this industrial sector. Based on this model, stakeholders must collaborate to guarantee the implementation of proper health and safety protocols, quality healthcare services, and systems for monitoring pollution. Also, providing appropriate training and increasing awareness among workers can foster a culture of responsibility and safety. Shifting Gadani's focus from quick profits toward preserving human life and the environment would make it possible to turn the region into a sustainable industrial complex with generous investment in infrastructure, transforming it into a pristine industrial zone.

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