



10th International Conference on Marine Technology, MARTEC 2016
Aspects and Impacts of Ship Recycling in Bangladesh

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Abstract

In this paper, overall ship recycling process in Bangladesh has been investigated and a comparison has been shown between Bangladesh and Rest of World on ship recycling activities. Furthermore the economic and environmental impact due to ship recycling in Bangladesh has also been demonstrated. However, the object of this paper is to discuss the current situation of ship recycling in Bangladesh and give some proposals to overcome the detrimental effects on environment and human life due to ship recycling.

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Peer-review under responsibility of the organizing committee of the 10th International Conference on Marine Technology.

Keywords: Ship Recycling; Beach Method; Economic Contribution; Environmental Impact

1. Introduction

Seas going vessels or ships have a normal lifespan of about 30/40 years after which any repair or renovation becomes uneconomical [1]. These ships are then retired and sold for scrap to commercial ship breakers. Until well into the 20th century, ship breaking used to be carried out in industrialized ports including those in USA and UK. Thereafter, the major centers of the ship breaking and recycling industry (SBRI) first moved from Europe and North America to East Asia and, since the 1980s, to South Asia. Since ship breaking involves highly labor intensive work, the SBRI has gravitated to countries with availability of low wage labor. In addition, weak occupational health and environment regulations, and little or no enforcement may also have been a contributory factor for the emergence of a large SBRI sector in South Asia. Currently, the global center of the ship breaking and recycling industry is located in South Asia, specifically Bangladesh, India, and Pakistan. These three countries account for 7080 percent of the international market for ship breaking of ocean-going vessels, with China and Turkey accounting for most of the rest [2]. Only about 5 percent of the global volume of such vessels is scrapped outside these five countries.

The ship breaking and recycling industry plays a significant economic role in Bangladesh, supplying a substantial quantity of reroll able scrap steel for the iron and steel industries. SBRI provides more than half of Bangladesh's steel supply, for example, making it a strategic industry in that country. The industry also creates hundreds of thousands of direct and indirect jobs for some of the poorest and most marginalized segments of the population in those countries. Although ship recycling is considered to be the most sustainable and efficient way of disposing a ship at the end of her life, Shipbreaking/dismantling is one of the most hazardous occupation (ILO, 2004) as well. Because of the complexity of the ship structure, inherent materials attached to the vessel during building, the work process and the locations do involve numerous environmental, health and safety issues. Therefore Workers are often exposed to associated work hazards which has significant detrimental effects on human health as well as on the environment if

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not handled properly. Historically working conditions have been very difficult in these major shipbreaking countries because of limited or no use of personal protective equipment, lack in use of mechanized equipment, remote location of the industries to obtain adequate shore support as well as proper enforcement. Social conditions associated with low education level, availability of information, lack of training and education has further aggravated the situation. The working conditions and negative impacts on the environment have been a growing concern over the past by the industry, social groups, NGO's and local and international media. A comprehensive plan of actions needs to be in place to improvise the current situations in those countries where proper training and education has been spotted to be of utmost priority.

2. Ship Recycling Process

Ships recycling being the last activity in the life cycle of a vessel, certain important commercial and engineering operations are to be carried out well in advance to facilitate the objectives of dismantling and recycling. Thorough knowledge regarding these background activities are essential for understanding and realizing the ship recycling processes and treating ship recycling as a modern industrial business activity. Currently in Bangladesh, the number of registered yards between 2014-15 increased to 149 [5]. Some of the yards are big enough to accommodate 3-4 ships at a time. The expansion of this growth has certainly increased the global capacity as a whole. Currently 44 yard has been awarded with ISO 30000:2009 and 13 yards are in the process of obtaining same [5]. Thirteen yards have been issued with ISO 9000-2008, ISO-14001 and OHSAS 18000; others have applied for same.

2.1. Decision on Decommissioning of ships

At present there are no international regulations, seeking the retirement of a ship from service. Ship classification societies are very active in merchant shipping technical operations and take a lead role in various decision making activities. However, they have little role to play in the decommissioning. There are no ship classification society rules recommending dismantling of an obsolete ship. However the ship classification societies can declass a ship according to their rules and regulations. This decision does not mean that the ship declassified by the ship classification society be scrapped immediately. The owner can change the flag, or can approach other ship classification societies which are not affiliated to International Association of Classification Societies (IACS) which may be ready to register any vessel under their classification survey. This will enable the ship owners to extend the life of their vessels. Ultimately, the decision of withdrawing a vessel from service is fully left to the owner of the vessel. Based upon the prevailing returns from shipping operations or scrap ship value the owner decides the fate of his vessel.

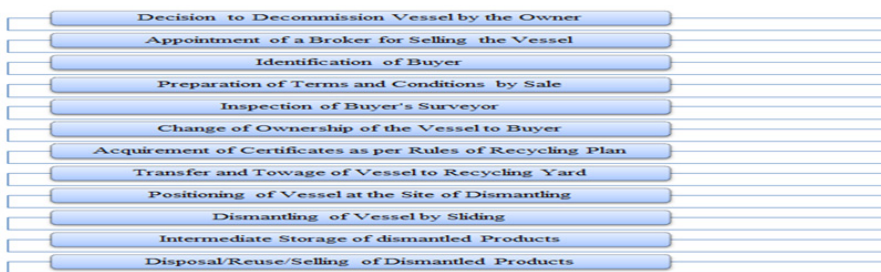


Fig. 1: Schematic Diagram of flow of activities in Ship Recycling

2.2. Activities involving ship recycling brokers

Before reaching the last owner (who is responsible for towing the ship to the positioning site for dismantling) the obsolete ship may pass through different intermediate owners. Owners of decommissioned ships are not called ship owners as the ship ceases to be operational and becomes scrap [Basel 2005]. Intermediate owners of such vessels are called as ship recycling brokers. Whenever the ship owners decide to decommission their vessels, information regarding this is made available in global information platforms such as internet websites and maritime publications. Interested ship recycling brokers approach the owners and transfer the ownership by paying advance amount. Then the broker invites quotation from potential buyers. Based on the highest bid offer from the buyers, the broker fixes the buyer and Memorandum of Understanding (MOU) is signed between the ship owner and the buyer. The MOU

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