A Report on Ship Building Industry of Bangladesh

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Executive Summary

In this report, an effort has been made to evaluate the present shipbuilding industries in Bangladesh. At first, an overall picture of this industries have been depicted by identifying the actual shipbuilding practice in both public and private sector. Relevant data have been explored through extensive review of literature, field visits, interacting with shipyard and ship owners. The potentiality, capability and problems of the shipbuilding sector of Bangladesh have been identified & some recommendations have been made in line with this report.

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1. Introduction

Bangladesh is a maritime nation with 1, 66,000 sq. km area of sea, abundance with living and non-living resources (Alam, 2004). There are more than 200 rivers all around the country, with a total length of about 22,155 km, which occupy about 11% of total area of the country. Here rivers and water transports play a vital role for economic and commercial activities in Bangladesh. Major export and import of Bangladesh (about 85%) is also traveled by sea (CPA, 2007). At present more than 5,000 inland/coastal ships have been playing all over the country, which carry more than 90% of total oil product, 70% of cargo and 35% of passengers. More than 1, 00,000 skilled workers and 150,000 semi-skilled workers are employed in this labor-intensive industry (Hossain and Zakaria, 2008). All inland ships are constructed and repaired in local shipyards. Bangladesh harbors the second largest ship breaking industries in the world. They are the prime source of raw material including plate, frame, stiffener, longitudinal, pipe, old engine/generator, and even auxiliary machinery, for most of the local private shipbuilding yards. Those are used as raw material in manufacturing and repairing inland shipping fleet.

2. Historical Background

Bangladesh is known mostly as a shipbreaking nation, with dozens of ageing container vessels heading towards its southern coast for scrap. However, in recent years it has also emerged as a shipbuilding country. Shipbuilding yards in Bangladesh are now exporting small and medium-sized ships for the highly competitive European market. Since 2008, Bangladeshi yards have manufactured and exported ferries, cargo vessels, and ocean-going multi-purpose ships worth more than $500m (£320m). The vessels were built for countries including Denmark, Germany and Finland. It's a small beginning compared with giants such as China, Japan and South Korea.

Global shipbuilding is currently dominated by South Korea, which is by far the world's largest shipbuilding nation. In spite of high labor costs, South Korea produced more ships in 2008 than the rest of the world combined. Its preeminence in the industry is largely due to its highly advanced shipbuilding technology, the strong work ethic of the labor force and the high productivity and efficiency of the shipbuilders. China is a fast emerging shipbuilder that is poised to overtake South Korea in the future, although its current production is limited mainly to low-cost basic vessels.

Major shipbuilding countries such as Korea, China, Japan, and Vietnam have all moved their focus

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towards building large ocean-faring vessels, for which less intensive labor is required. This, however, has left an opportunity for developing countries like Bangladesh to produce small-sized ocean-faring vessels, not exceeding 25,000 Dead Weight Tonnage (DWT) capacities. Bangladesh, among others is trying to avail this opportunity as it has abundant and low-wage labor. Moreover, it has skilled and semi-skilled workforce in this sector for many decades. Cargo vessels under inland shipping ordinance began during eighties with sizes from 200 DWT to 500 DWT. Such construction did not require any organized dockyard or shipyard.

The shipbreaking industry started its operations in the 1960s when a Greek ship 'MD Alpine' was stranded on the shores of Sitakund, Chittagong after a severe cyclone. The ship remained there for a long time before the Chittagong Steel House brought the vessel and scrapped it.

During the Liberation War in 1971, a Pakistani ship 'Al Abbas' was damaged by bombing. It was later salvaged and brought to the Fauzdarhat shore. In 1974, Karnafully Metal Works Ltd bought it as scrap, introducing commercial shipbreaking in Bangladesh. The industry flourished during the 1980s. Today it has become large and profitable industry for Bangladesh.

3. Global trend of shipbuilding industry

In the past, shipbuilding industry of the East enjoyed superiority and made the region leader of civilization. After World War II shipbuilding becomes a European Industry in which Britain took the lead. This is followed by Japan (1960s to 1980s). Then South Korea took the lead. Thus the world shipbuilding market is moving east and presently Japan and South Korea have nearly equal shares of 70 percent of that market. Now, the most rapid growth in market share observed and planned is in China. But, the countries where labor costs are going up are shifting their role from small to medium and large ships. The other emerging forces are Vietnam and India. In fact, emergence of Vietnam is largely a result of efforts by European countries to relocate their shipbuilding industry to low labor cost countries. India is another rising giant in shipbuilding industry where private entrepreneurs started establishing shipyards with government support and by now the country has come to a good position in the world's shipbuilding countries and receiving orders of hundreds of millions of dollars.

Thus, shipbuilding has shifted from Europe to Japan to Korea and these days are shifting to China and Vietnam and India and now in Bangladesh and the single most driving force behind this

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phenomenon is lower labor cost and overhead.

4. Type and Sizes of Ships in Bangladesh

On the capability of the technological compatibility of shipbuilding, past & present trend, ability of the existing shipyards of Bangladesh and the interest of new comers in shipbuilding, it is anticipated that Bangladesh can build various types of ships (small & medium category) for both inland and sea going. The present facilities will limit the size of the vessel up to 10,000 DWT, but if expansions programme of various shipyard are taken in consideration, Bangladesh will be able to build up to 50,000 DWT vessels in near future.

A number of diversified types of vessels are built in various shipyards around the Bangladesh, such as: multipurpose vessel, fast patrol boat, container vessel, cargo vessel, tanker, dredging barge, ferry, passenger vessel, landing craft, tourist ship, tug boat, supply barge, deck loading barge, pleasure craft/hatch, crane boat, speed boat, deep sea trawler, self-propelled barge, inspection vessel, cargo coaster, troops carrying vessel, double decker passenger vessel, hydrographic survey boat, pilot boat, hospital ship, water taxi, etc.

5. Identification of existing shipyards

There are hundred shipyards and workshops in Bangladesh of which 124 have been reported to be registered with the Department of Shipping (shipyard statistics, 2012). Out of these shipyards, approximately 70% are located in and around Dhaka and Narayangong along the side of the river bank of Buriganga, Shitalakha and Meghna. About 20% shipyards of Chittagong division are located along the side of Karnapuli River and 6% are located along the bank of Poshur river of Khulna division and remaining 4% are located in Barishal division (Shipyard Statistics, 2012). Almost all inland/coastal/bay crossing ships are constructed and repaired locally in these local shipyards.

6. Existing Situation

Bangladesh's domestic steel production is insufficient to meet national demand, which is estimated at 5 million tons a year. The country has approximately 250 to 300 rolling mills currently in operation. Their production—essentially Bangladesh's domestic steel output—is estimated at around 2.2 million tons a year, with sales valued at $1.2 billion. Current construction consumption of bars and rods is 2 million to 2.5 million tons per year. The SBRI output in Bangladesh, either plate or

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melting scrap, mainly feeds the smaller operators who produce perhaps 70 percent of re-rolling mill output in the form of lower-quality 40-grade rod. These smaller mills are principally located in Chittagong and Dhaka. Using recent annual average of 1–1.25 million tons of scrap output from Chittagong's ship breaking yards, it estimated that Bangladesh's SBRI contributes significantly to the country's steel production – perhaps up to 50 percent, this downstream demand for steel scrap has been a major driving force in the growth of the SBRI in Bangladesh. The summary of the Bangladesh`s shipbuilding industry is below:

Number of Companies: 130

Active player: 18

Number of Yards: 79

Active Yards: 61

Under Construction: 08

Closed: 09

Proposed: 01

Source: Chittagong Environment Department, 2010

7. Product Types

The vessels were built on bare land on the riverbanks. They were scattered around the country, especially where electricity was available. Presently, the industries manufacturing row ferries, tug boats, fishing trawlers, inland oil tankers, etc. are catering to local demand. With the ship-breaking industry flourishing in Chittagong, availability of steel plates boosted the inland shipbuilding in the early nineties and various shipyards started to emerge in this sector. As of today, about 200 locally-built cargo vessels from 500 DWT to 2000 DWT - are now operating, and one thousand vessels with a 1000 passenger-capacity are plying on our inland riverine routes. Moreover, there are about 300 small and large dockyards, generating about 100,000 jobs.

A total of 30 shipbuilding companies have so far been registered with the Board of Investment (BOI). Out of these, 22 are local investment projects, 7 are joint ventures and one is a 100% foreign owned project. The total proposed investment of these projects is around Taka 847 crore. Local investment comes around Taka 720 crore. Excepting a few, most are reverine and coastal cargoes, row ferries,

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tug boats, fishing trawlers and inland oil tankers.

8. Industry Structure, Market Demand, and Performance

At the present time some 40 ship breaking and recycling yards are in operation in Bangladesh. In the past decade, the number of ship recyclers has typically fluctuated between 30 and 40. Some 8-10 of these are larger, diversified companies, which are integrated upstream into oxygen plants and downstream into re rolling mills. Ship breaking yards are in close proximity to both larger and smaller re-rolling mills that produce steel rods, bars, angles, and channels, principally for use the construction industry. In addition, other goods from ships from furniture to electrical generators are recycled and used intensively in Bangladesh, perhaps to a greater degree than in the other south Asian countries.

Table 1 shows year-wise contract for number of vessels in world shipbuilding market and the share received by some major shipbuilding countries and Bangladesh during 2001 to 2008. The table shows how China and Korea takeover Japan after 2004. Bangladesh got a jump in receiving orders in 2007 and got a little slack afterwards due to the world recession.

Table: 1. Shipbuilding contracts received by some major shipbuilding nations and Bangladesh

Year	World Total (Vessel number	China (%)	Japan (%)	Korea (%)	Bangladesh (%)
2001	2500	16.00	20.80	9.20	0.08
2002	2250	11.11	22.22	10.00	0.00
2003	3100	16.29	22.58	16.45	0.10
2004	3900	20.26	21.79	13.08	0.10
2005	3850	20.78	13.25	12.73	0.03
2006	5050	29.70	14.85	14.85	0.08
2007	6600	33.33	11.21	19.70	0.35
2008	3000	30.00	16.50	13.33	0.57

Source: Bangladesh Shipyard Statistics, 2012

Very recently few Bangladeshi shipyards have received orders from the foreign ships' buyers. Ananda Shipyard exported her first ship to a Danish company on May 2008. And with this great

event, Bangladesh has successfully exported her first ocean going ship to a high end market like Denmark competing with giant competitor like Chinese and Vietnamese ship builders. In December 2008 Ananda Shipyard exported six classed ferries and boats including three aluminum catamaran passenger vessels, securing orders through international tender under World Bank. Ananda Shipyard has also signed contract with Germany, Denmark and Mozambique to build more than a dozen ships with the value of US$ 300 million. On the other hand, few more quality shipyards like, Western Marine and HighSpeed have also received orders to build dozens of ships from Germany, Netherlands, Japan, Denmark and Finland costing approximately US$ 300. There is a strong opportunity to attract considerable foreign investment on shipbuilding by way of utilizing skilled and low wage workers. As world ship owners are slowly but surely entering into Bangladesh with this prospect, it is expected that more qualitative shipyards will be surfaced in Bangladesh.

Table: 2. Contribution to steel production and consumption in Bangladesh

	Bangladesh
Steel Consumption	5 million tons
Steel Production	2.2 to 2.5 million tons
Scrap Steel from Ship Breaking	Up to 1.5 million tons
Ship-breaking-steel Contribution to Production	50%
Ship-breaking-steel Contribution to Consumption	20-25%

Source: Bangladesh Shipyard Statistics, 2013.

9. Market Analysis

Traditional market leaders of world shipbuilding industry are over-booked mainly for construction of large ships and they are not interested in building small scale ships leaving a golden opportunity for countries like Bangladesh which can make ships up to 12,000 DWT (dead weight tonnage).

High speed Shipbuilding and Engineering Company Ltd, the country's oldest shipbuilder, will sign the deal with Groningen-based Hollander Scholtens (HS) to build 9,000 tones capacity eight ships by April 2012. High speed Shipbuilding and Engineering Company Ltd. the country's oldest shipbuilder specialized in building small riverine cargo and passenger vessels will be the third company to join

the boom in ocean-going shipbuilding industry.

Ananda Shipyard and Slipways Limited based at Meghnaghat and Western Marine in Chittagong have already bagged export orders worth $280 million since the country emerged as a new global destination of shipbuilding last year.

The latest export order came, as Bangladesh has become a new destination for construction of small sea vessels, with an annual market of $400 billion, as traditional shipbuilding nations such as South Korea, Japan and China now focus on large vessels. An expert said the latest order proves that the country is very much on the path to become a major ship-builder.

10. Market Player

According to shipyard industry sources, there are some 70 shipbuilding firms in Bangladesh. The main market players are below:

① Western Marine Shipyard

② Ananda Shipyard and shipways Limited.

③ Narayanganj Engineering and Ship Building

④ Khan Brothers, Karnaphuli Shipyard,

⑤ High Speed Shipbuilding and Engineering Company Ltd, and

⑥ Meghna Group

11. Government Policy

Government policy in Bangladesh is to encourage and attract foreign investments. Bangladesh has a quite well defined FDI (foreign Direct Investment) attracting policy. All benefit available for a national entrepreneur is equally available to foreign investors. Bangladesh is looking forward to having investment from abroad side by side to that of national private sector investments. Diversifications of exports and expansion of export basket is an integral part of the long term adopted industrial and economic policy. Bangladesh government is keen to support a fast healthy growth of shipbuilding industries.

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Shipbuilding has been declared as a “Thrust Sector”. Green channel port clearance system of imports of raw materials for export shipbuilding has been accorded. Bangladesh government is already keenly initiating various action plans to overcome the aforementioned weaknesses. To compete with other Asian shipbuilding giants in the sector, Govt. may allow Bangladesh ships exporters a subsidy to the tune of 20%. Subsidy will help to get a foothold in the international market. Bangladesh is willing to extend all necessary supports.

12. Weaknesses to be overcome

Bangladesh is a very new entrant in the international shipbuilding. There are weaknesses which must be overcome by appropriate steps to meet challenges and be competitive. A glimpse of weaknesses is pictured below:

- Scarcity of capital
- High financing cost
- Backwardness in technology
- Inadequate electric supply
- Weak diplomacy
- Inadequate management pool for expanding shipbuilding industries
- Lack of basic design abilities
- Longer lead time in material mobilization
- Lack of comprehensive skill development in various shipbuilding traders
- No policy body for advising government on shipbuilding
- Subsidies/ support in various shipbuilding countries

13. Job Opportunities

A number of shipyards in Bangladesh have the capacity to build vessels for international markets. Western Marine and Ananda Shipyard & Shipways have been leading the way in production for overseas buyers. At the moment, they can produce ships of about 10,000 tons and they are working to expand their facilities to build bigger vessels. The industry is aiming to win orders of more than $2billion in the next five years. If that happens, it is expected to create many thousands of jobs. Bangladesh has more than 100 shipbuilding yards, with most of them serving the domestic market.

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Experts say nearly 70% of the country's cargo and 90% of total oil products are transported by small ships, cargo vessels and tugs through its coastal and inland waterways. Hundreds of thousands of people use ferries and steamers to travel from one part of Bangladesh to another, and most of these vessels are built in the country.

14. Prospect of Shipping Industry in Bangladesh

The sea borne cargo growth is increasing 6-8% per year and demand of new shipbuilding is increasing at the rate of 3-4% per year (Khan, 2013). But the existing ship building industries are not in a position to handle this additional pressure. At the same time traditional ship building nations are burdened and as the rate of demand is increasing day by day, they have become selective in building new ships. They are not interested to build small ships of 25,000 DWT or less. So the ship owners, who are interested to build small ships of less than 25,000 DWT, had to look for alternative markets. For these reason, Bangladesh is a prospective market for international community.

Considering the world market and internal market, it is assumed that Bangladesh has a bright future to elevate herself as a shipbuilding nation in the world market and surely that factor should encourage more Bangladeshi entrepreneurs to come forward in this business.

The shipbuilding industry here hopes that if the global economy recovers, then it offers tremendous potential. Experts say more than 50% of the world's ships are more than 20 years old and need replacing. More importantly, they say countries such as Japan, South Korea and China are building very big, specialized and hi-tech ships, and they are not interested in constructing smaller vessels. Globally, this small and medium-sized ship market is worth around $200 Billion. If Bangladesh can get 1% of this market, then it amounts to $2 Billion.

Even though several problems are involved, with the convenient geographical advantage together with availability of less expensive technical personnel, abundance of skilled and semi-skilled workforce and long past heritage, Bangladesh has a very good opportunity to become a shipbuilding nation by 2016.

In Bangladesh, the long coastline and mouths of rivers falling to the sea offer excellent geographical endowment for development of shipyards and shipbuilding zones. For these reason Japanese shipyard companies have huge opportunities to business in Bangladesh.

Bangladesh`s shipbuilding sector is deemed competitive because a favorable business environment.

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15. Conclusion

Shipbuilding industry plays an important role in assisting national defense, promoting shipping and industrial development, increasing employment and foreign currency inflow. It is therefore an attractive industry for Bangladesh. Bangladesh shipbuilding is capable of producing international standard ship of small to medium category and at present, more than 25% shipyards are ready or to be ready with little renovation for construction of small and medium sized vessels of international standards. Productivity of Bangladeshi work force in shipbuilding is 11.4 which are lowest in the world. It is essential to upgrade the productivity through conducting training program, incorporating process enhancement, modernizing yard facilities and employing more integrated production technology, otherwise it is difficult to sustain in this competitive industry in the long run.

Bangladesh is a developing country. Each and every citizen of this country expects the overall development of the country. But in most of the cases it is not materialized in reality. In the past, we failed several times to take the advantages and lucrative opportunities of modern trade and commerce due to the delay in our response. For this reason, our overall economic development has undoubtedly been interrupted. So the concerned authorities have to be watchful and careful to take the opportunity to push the shipbuilding sector ahead as a thrust sector through fixing the identified problems leaving no delay.

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