

COMPARATIVE STUDY OF SHIPYARDS UNDER NAVY AND PRIVATE OWNED SHIPYARDS OF BANGLADESH

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Abstract:

Bangladesh is heavily dependent on sea and river for its trade and exploration of resources. Ships are the main means of carrying cargos either inland or in seaward routes. Hence there is always an increasing demand for shipbuilding but it has not grown up as desired even after having a very good prospect. The country has considerable no of shipyards which are mostly private owned with different capabilities around Dhaka, Chittagong and Narayanganj. Naval shipyards are engaged in both naval and commercial shipbuilding and ship repair works. They have very good prospect considering the increasing demand for inland cargo vessel, tankers, passenger crafts etc due to huge traffic on road and poor road condition. Moreover, as the major private shipyards are emphasizing on producing seagoing vessels for foreign buyers, vast opportunities is being created to establish their footholds in local market. But the naval shipyards have limited capabilities which are even reduced due to age old slipway and machineries. Detailed studies were carried out to find out the problems of naval shipyards comparing with that of the major private shipyards. Naval shipyards are strategically and commercially very important and it has become essential to resolve the problems to achieve the desired goals. Bangladesh has promising future in shipbuilding and it is expected that by improving the capability and reducing the existing problems naval shipyards will be able to grip every possible opportunities to contribute more to the nation.

Keywords: Shipbuilding, Naval Shipyard, KSY (Khulna Shipyard Ltd), DEW Ltd (Dockyard and Engineering Works Ltd), ASSL (Ananda Shipbuilders and slipways Limited), WMSL (Western Marine Shipyard Limited), NHQ (Naval Headquarter), CNS (Chief of Naval Staff), NDT (Non Destructive Test).

1.0 INTRODUCTION:

1.1 Bangladesh, which has a large sea area and is full of rivers and waterways; seagoing, coastal and river crafts are important mode for human and goods transportation. All major export and import (about 90%) also travel through sea. Hence shipbuilding plays a vital role in industrial and economic sector of the country. Bangladesh has also long heritage of shipbuilding. Hundreds of years ago, ships were being built here for the Ottoman Empire. After a long interval, Shipbuilding has become an important industrial, economic and nation building sector as the country has become a new exporter of small ocean-going vessels. Private ship building industries like ASSL and WMSL have already received orders in last few years from foreign countries like Netherlands, Denmark, Singapore and Mozambique.

1.2 KSY Ltd & DEW Ltd are the shipyards under Navy which have long experiences in shipbuilding. But their capacities are limited, KSY Ltd can dock ships up to 275 feet length & 700 tons light weight where as DEW Ltd may dock up to length of 300 ft & 1500 DWT (Baten, 2000, pp 14). These

capacities have also been reduced due to age old slipway arrangement and outdated machineries in various shops. Moreover, they always face difficulties to get the job through tender. Private shipyards though developed recently, are getting exciting offer to build various inland commercial ships as well as foreign Ships. But naval shipyards could not make appreciable progress in this regards due to various problems like methods of marketing, management, technologies and pricing procedure.

1.3 In this perspective, this paper will initially review the background and present scenario of shipbuilding in Bangladesh, existing facilities of both private and naval shipyards including limitations of shipyards. It will also analyze the means to overcome the problems and improving the existing facilities to fulfill the requirement of international standard.

2.0 SHIPBUILDING IN BANGLADESH:

2.1 Brief History:

The history of shipbuilding in Bangladesh is quite old, which revolves around Dhaka, Chittagong

and Narayanganj. The shipbuilding industry of Bangladesh started losing her fame at the end of nineteenth century due to two major reasons; the introduction of steam-engine ship and non-cooperative attitude of the British Colonial Government. There was a modest development in Government Shipyards during British period (only DEW Limited was built in 1926) and Pakistan period (KSY was built in 1957). After the independence, the only significant development in public sector was the Chittagong Dry Dock Limited, engaged in ship repair since birth. But, the state owned shipyards; DEW and KSY Ltd have failed to keep their reputation, subsequently became losing enterprises. Presently, ASSL and WMSHL, High speed Shipbuilding & Engineering Co Ltd signed deals for constructing new ships for foreign countries. (Information leaflet, ASSL, WMSHL and High speed shipbuilding).

2.2 Present Shipbuilding Facilities:

Bangladesh government owned dockyards do not have the shipbuilding ability at present, a few government yards are engaged in ship repairing

only (Sirajul Islam, interviewed on 19 Aug 2011). KSY and DEW Ltd are the shipbuilding industry handed over to BN in 1999 and 2006 respectively. In Bangladesh, most of inland vessels are built in the private dockyards. At Germanischer Lloyd's insistence, few private shipyards like ASSL, WMSHL, High-speed, Karnaphuli shipyard and Narayanganj dry-dock have upgraded the infrastructure (capacity up to 20,000 ton steels/year) to build seafaring ships (Rahman, interviewed on 10 Sep 2011).

3.0 COMPARISON OF PRIVATE AND NAVAL SHIPYARD:

3.1 Comparison of Capabilities:

Inland vessels are mostly built in private shipyards. ASSL, WMSHL, and Highspeed Shipbuilding & Engineering Co Ltd have already built oceangoing ships to meet the local and foreign demand. Naval shipyards are also engaged in ship repair and ship construction. However, the comparisons in capacity of major private and naval shipyards are shown below:

Table1: Comparisons between Capacity of Major Private and Naval Shipyards

Items	Private Shipyards		Naval Shipyards	
	ASSL	WMSHL	KSY Ltd	DEW Ltd
Location	Located on the bank of river Meghna, 27 km away from Dhaka	Located on the bank of river Karnaphuli near Shikalbaha, Chittagong	Located on the West Bank of the river Qazi Bacha, Khulna	Located at Sonakanda, Narayanganj
Capabilities (Slipway)	2 slipways having the capability of lifting 4000 tonnes	2 Tracks of 220m. Light Weight=1500Mton, DWT=5000Mton	Slipway can carry ships up to 700 tons Light Weight. It has eight side tracks, each of which is 320 feet long	Slipway can carry ships up to 2500 tons Dead Weight Tonnage
(Shipbuilding shop)	Fully equipped Shipbuilding shop, Machine shop, Electrical shop and Carpentry shop	Machine shop, Electrical shop, Carpentry shop and Fabrication shop which provide facilities of Ship design and NDT facilities	Equipped with Machine shop, Electrical shop, Foundry shop, Carpentry shop and Shipbuilding shop	Shipbuilding shop, Machine shop, Electrical shop and Carpentry shop. Most of the machineries are old

(Production Capability)	Steel consumption, about 20,000 tons per year	Steel consumption, about 25,000 tons per year	4000 tons of steel work per year	3000 tons of steel work per year
Employees	Workforces of more than 1,362, led by 96 qualified officers	40 professional staff and about 650 skilled and semiskilled technicians	10 naval officers, 15 engineers, civilian officers including a workforce of 500 workers(with casual)	8 naval officers, engineers, including trained workforce
Product	Built Patrol boats for CG, Inland and coastal ships, ocean faring vessels to meet local/foreign demand	Built good no of cruise boat, tug boat and tankers for local market. Building 18 ocean-going ships for foreign countries	KSY Ltd built commercial tankers, inland and coastal ships including two tug boats, floating crane for BN and buoy tender vessel. KSY is building five patrol crafts for BN at present	Built Landing Craft Tank with Hel for BA. They have also built BNT SHEBAK, Ro-Ro ferry for BIWTC and a number of class ships

Source: Leaflets and Websites of above mentioned shipyards.

3.2 Comparison of Works Done:

Private shipyards like ASSL and WMSHL are maintaining international standards. Both KSY and DEW Ltd were handed over to BN when most of their machineries became outdated and were

incurring loss. In last few years BN renewed the facilities and started shipbuilding and repair works. The comparisons of works done in major private and naval shipyards for last five years are mentioned below:

Table 3: Comparisons of Works Done in Major Private and Naval Shipyards - 2006-2010

Year	Private shipyard				Naval Shipyard			
	ASSL		WMSHL		KSY Ltd		DEW Ltd	
	Constr	Repair	Constr	Repair	Constr	Repair	Constr	Repair
2006	02	x	03	03	05 Pontoon	23	Not considered	
2007	16				03 (Incl 02 pontoon)	21	x	02
2008	(Incl 06 boats for Mozambique, 02 container vessel for Denmark)	x	14	02	01 Ferry 02 Fire float	42	x	10
2009					05 (Incl 02 Pontoon and rehabilitation of 02 Dredger)	33	x	09
2010 - 2011	06 Incl Multi Purpose Cargo Vessel for export	x	21 Incl 4100 DWT Cargo Vessel	x	06 Ships, 11 Pontoon (Including 05 PC for Navy)	42	x	16
Total	24 Ships	Nil	38 Ships	05 Ships	08 New Ships, 20 Pontoon and 02 Fire floats, 02 dredger rehabilitation	Repair works of 171 ships and pontoons	Nil	37 Ships and Boats

Source: Track list of above mentioned Naval and private shipyards.

3.3 Comparison of Limitations:

The limitations of naval and private shipyards are described basing on information achieved through interviews, articles consulted as referred, responses of professionals during survey and in light of personal experiences.

a. Management and Administration.

Private Shipyard: The study and survey on private shipyards shows that important managerial positions like director, executive, committee member etc are occupied by the family members, friends and practice one man show management culture.

(1) Advantages.

- (a) Quick decision making
- (b) Easy to maintain personal and business relationship

(2) Disadvantages.

- (a) May be one of the hindrances if the appointed personnel are less qualified.

- (b) Poor command and control and owners do not care about welfare of employees.

Shipyard under Navy Present Board is composed of naval officers and civil officials of different relevant discipline. CNS is the Chairman of the Board and generally the Board sits once in every quarter.

(1) Advantages.

- (a) Efficient decision making
- (b) Effective command and control

(2) Disadvantages.

- (a) No permanent staff in decision making level.
- (b) Naval shipyards suffer due to slow decision making (Ali, 2007, pp 6). All major and in some cases, even a minor decision require approval from NHQ.

- (c) All procurements are made as per Government regulations which increase the price, production cost and consume considerable time.

- (d) Naval officers are holding the management posts both in KSY and DEW Ltd. Growing up in

defence environment is not conducive for a commercial organization (Ali, 2007, pp 6).

b. Technology:

Private Shipyard. Most of the private shipyards in the country suffer due to lack in shipbuilding technology. However, few private shipyards have installed latest shipbuilding machineries and transferred modern technologies to attract foreign buyers.

Naval Shipyard. Both the KSY and DEW Ltd were handed over to navy after being sick industry. Most of their machineries were old, performances were poor and operators/maintainers were not available. BN tried their level best and made them operational, installed new machineries where necessary. Moreover, experts studied existing facilities naval shipyards to undertake a renovation programme to enhance their capabilities (Maksud, Interviewed on 29 Aug 2011).

c. Human Resource development:

Private Shipyard. Few private shipyards have sufficient engineers, skilled supervisors, foreman, welders and other workers. Private shipyards offer handsome salary to attract experience personnel to maintain an effective workforce.

Naval Shipyard. Naval Shipyards have a mixture of naval and civil engineers. The yards are well short of experienced engineers and workers as shipyards face difficulty in offering handsome salary or facilities.

d. Marketing Policy:

Private Shipyard. Private shipyards are always searching for job orders using all sorts of print and electronic media, maintaining personal relations and very close relations with supporting industries. They also maintain good liaison with high officials, politicians and various govt organizations to get the tender in right/wrong means. They have also remuneration package for those who ensure jobs for them.

Naval Shipyard. The marketing problems of naval shipyards are:

(1) Limited exposure in shipbuilding industry and personal relation with ship owners.

(2) The customers want to get compromise service which naval shipyards cannot provide.

(3) Naval shipyards always give top priority to naval ships which causes unwanted delay in commercial works.

e. Infrastructure problem:

Private Shipyard. Most of the private shipyards suffer due to siltation in the channel. Ananda shipyard is far away from sea and channel depth is a restriction for them. WMSHL located near to the sea but there is a bridge over the channel. Due to shortage of backup industries most of the materials are imported from foreign countries.

Naval Shipyard. KSY Ltd is suffering badly due to siltation problem. Two dredgers are in constant operation in front of the slipway, which increases the production cost. The location of Mongla bridge also provided draft and size limitation for ships. DEW Ltd is situated far away from the sea, suffers from siltation and internal infrastructure problem.

f. Pricing Problem:

Naval Shipyard. In Bangladesh, normally the lowest bidder gets the contract. In most of the cases naval shipyards do not get the job through tender as because the price is high which happens due to following reasons:

(1) Naval Shipyards always try to ensure best quality jobs to maintain their reputation and have huge overhead cost (about 250%).

(2) Naval Shipyards also suffers due to problem in procurement. All most all items are procured through tender as MD has very less financial capability. Just for purchasing any items of one lac ten thousand, the tender inviting cost is thirty thousand, one fourth of purchase price. Additionally, there is a possibility of single and unaccepted offer that might lead to re-invitation of tender making the expenditure double. So, due to government purchase regulations, the price of

items goes higher and a delay in delivery occurs.

Private Shipyard. Most of the cases private shipyards are getting the projects through tender for being the lowest bidder. The probable reasons are:

(1) Private shipyards avail a pre idea about the projects and the money sanctioned illegally.

(2) They purchase the items through direct procurement system which save money.

(3) Private shipyards though getting the projects as lowest bidder, most of the time asks for additional money making a supplementary work list or provide old equipments instead of new or use ship breaking yard's plate instead of new or change the plate thickness.

3.4 Survey Analysis:

A survey through a set of questionnaires was carried out among the naval experts, engineers and civil experts. All experts viewed that Bangladesh has a very good prospect in shipbuilding. They also expressed that private shipyards are more capable comparing naval shipyards as well as getting more jobs of new construction. Naval shipyards are mostly engaged in repairing jobs due to operational requirement of naval ships. Naval shipyards also suffer due to complex purchase regulations which create unnecessary delay and relatively higher pricing. Most of the experts suggested for enhancing the capabilities, employment of experienced engineers and workers and improving the marketing techniques to accommodate more new constructions of commercial ships.

4.0 OPTIONS TO IMPROVE THE LIMITATIONS OF NAVAL SHIPYARDS:

The naval shipyards have very good prospect considering the increasing demand for inland cargo vessel, tankers, passenger craft due to huge traffic on road and poor road condition. Bangladesh Navy is already enhancing their capabilities by incorporating various machineries and technologies. The detailed study on the shipyards shows that there are various problems which can be resolved in following ways:

a. Increasing the capability by Modernization of Shipyards

b. Resource Management/ Other measures

4.1 Modernizing the Naval Shipyard to International Standard:

Modernizing a shipyard requires planning, considerable amount of time and budget allocation. The planning for improving the shipyards capabilities are described below (Akhter and Maksud, Interviewed on 29 Aug 2011 at NHQ):

a. Short Term Plan (Three Years Plan). Ship design and drawing section shall be enhanced at least to design inland vessels. The major problem areas shall be identified and old machineries shall be repaired, marketing techniques shall be enhanced and R&D cell shall be established.

b. Mid Term Plan (Five Years Plan). New technologies like Computer aided design (CAD) and machineries (CAM) shall be introduced. Ship design and drawing section shall be enhanced to design coastal vessels. Joint collaboration with foreign or private shipyards should be done.

c. Long Term Plan (Seven Years Plan). The infrastructure of the yards shall be improved and shipbuilding shade shall be made. Ship design and drawing section shall be enhanced to design seagoing vessels. Forward yard shall be developed to produce ocean going vessels.

4.2 Resource Management/Other Measures:

a. Management and Administration.

(1) Decision making process shall be shortened and quick. MD and GMs shall be given more financial capability and authority to take the decision independently (Ali, 2007, pp 30-31).

(2) Option shall be kept for civil employee to promote up to management posts.

b. Capacity. Ship design capability to be enhanced involving experienced people, BUET experts, collaborating with competent private organization or foreign shipyard (Mahbub, Interviewed in 11Sep 2011).

c. Human Resource development

(1) Few technical branch officers should be recruited/ prepared for shipyard service.

(2) Adequate number of engineers and workers to be recruited. Salary and facilities for engineers or experienced workers shall be enhanced to attract them for longer duration.

d. Marketing Policy.

(1) Naval shipyards shall be promoted in various print and electronic media and should search for the jobs. Remuneration package shall be arranged for the persons who will help to get the jobs (Rahman and Rahim, Interviewed on 10 Sep 2011).

(2) They shall promote joint venture (Public-Private-Partnership) and technology transfer to ensure more jobs (Rahman and Rahim, Interviewed on 10 Sep 2011).

e. Infrastructure problem.

Siltation problem near shipyard area shall be overcome by planned dredging at a regular interval with the help of Government and foreign experts (Tariqul, Interviewed on 10 Sep 2011).

f. Pricing Problem.

(1) Emphasis shall be given to build expertise for design and calculation of shipbuilding.

(2) The government purchase regulations to be adjusted to reduce estimated price.

g. Others Problems. Business is a different chapter which requires high dedication and attention. So, the belongingness of officer's to be increased appreciably.

5.0 CONCLUSION:

5.1 Bangladesh is heavily dependent on sea and river for its trade and exploration of resources. Ships are the main means of carrying items either inland or in seaward routes. Hence there is always an increasing demand for shipbuilding but it has not grown up as desired even Bangladesh had always a very good prospect. However, shipbuilding at present has got a new dimension as few shipyards are building sea going ships to export. Recent trend shows the promising future after a long time and private shipbuilding yards could take hold of the opportunities. Naval shipyards are engaged both in naval and commercial shipbuilding and repair works. They are facing the problem to get the projects after competing with different private shipyards through tender due to pricing problem and high overhead cost.

5.2 The comparisons of private and naval shipyard were divided in four main sections; Comparison of capabilities, Works done in last five years, Limitations or the challenges faced by them and Survey analysis. These analysis shows that Private shipyards are constructing most of the ships to meet the local and foreign demand. Naval shipyards are more engaged in repair works than new construction and not developing sufficiently due to infrastructure, administration, technological, human resource development and pricing problems. Naval shipyards are strategically very important as they have the capability of warship building, repairing and renovation works. It is well expected that by improving the capability and reducing the existing problems, naval shipyards will be able to grip every possible opportunities and contribute more to the nation.

6.0 RECOMMENDATIONS:

Few recommendations are made basing on the discussions which are mentioned below:

a. MD and GMs shall be appointed for at least for three years and shall be given more financial capability (up to Tk 20 lacs) and authority to take the decision independently.

b. The government purchase regulations for naval shipyards shall be reviewed to reduce unwanted expenditure and time delay.

c. BMRE has to be carried out once in every three years and will be equipped with new machineries.

d. Adequate no of engineers and workers to be recruited to substitute the retired personnel. A separate salary structure shall be introduced for experienced workers and engineers.

e. BN shall employ a specialized company for finding out suitable marketing options.

f. Government shall be pursued to take the following steps:

(1) Duty free import of specific categories of shipbuilding steel

(2) Reduce tariffs of imported shipbuilding materials and capital machinery

(3) Protect internal market by restricting imports of vessels which can be built locally

References:

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