

Deep Sea Port and the National Development: Perspective of Bangladesh

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ABSTRACT

The deep sea port development as an economic infrastructure influences positively on the growth of a country. The economic history of Britain, Netherlands, and Singapore, known as the maritime powers in the world, undoubtedly proves the important role of ports played in the development of their economies. Establishment of a deep-sea port has become strategically very critical for Bangladesh considering its potential impact on the development and economic growth of the country. Port economics and macroeconomics are closely related. So changes in port traffic or operation and port organization has a significant impact on national economy especially on the hinterland. This study, therefore, has focused on the importance of deep seaport in the national development of Bangladesh. Moreover, the paper gives an overview of a deep seaport and national development in respect of Bangladesh. The study also indicates the effect of a deep seaport on national development. At the end, this study states some recommendations for the establishment of the deep sea port. Those Includes-Studies on the selection of strategic location, details investigation of hinterland connectivity, the decision on investment and proper planning etc.

Keywords-- Deep Seaport, National Development, Maritime Trade, Shipping

I. INTRODUCTION

Since Time Immemorial Sea borne trade played a vital role in national development whereas port has been an integral part of sea borne trade. More volumes of cargo at port in particular country indicates the more business of the nation. Maritime transport economics is considered as an another source of GDP. With globalization and advantages of technologies the nature and type of ports have under major transportations. Deep seaport has emerged on the pivotal of the national development in recent years. Singapore, Malta, and France contribute about more than 10 % to the GDP. "About 11 % of GDP of the Netherlands is generated by the activities of the port of Rotterdam alone" (Alderton, 1999, p.121) [1]. " Spanish ports provide an added value ranging from 6.78 % to 7.70 % of total GNP and generate

an amount ranging from 8.20 to 8.95 % of Spanish employment in 1993 " (Coto Millan , Martinez Budia , 1999, p. 163)[2].

Bangladesh has started focusing on accomplishment of the Sustainable Development Goals (SDGs) by 2030. A port can play as a wheel of the economy if it is operated effectively. The world's economic globalization has acquired a remarkable growth in trades of products over the globe. In order to adapt with the increasing volume of global trade, ports of every nation will certainly continue to play a basic part in adding a greater value to the national economy.

However, Bangladeshi ports are not compared and not yet considered to the global standards in terms of both technical and non-technical matters. One of the Major problem of the existing ports is the draft problem thereby most of the large ship can't enter to the jetty and plowshares those can enter to the jetty has to be wait for the high tide.

The government of Bangladesh has taken a vision to reach as a developed country. To fulfill this demand, the deep sea port will play a vital role in this regard by creating more maritime related business. The ship size is increasing day by day. Our existing ports can't capable to handle the large ships. So to compete with growing maritime trade that helps to national development deep sea port is very essential. Moreover, considering the strategic location, Bangladesh has been dreaming for a hub port of the region having deep draft births in a suitable location. The purpose of this study therefore is to examine the deep seaport and capacity building and its implication for Bangladesh considering the national economy.

II. LITERATURE REVIEW

Abedin (2015) argue in his paper "Construction of Sonadia Deep Sea Port for Economic Development in Bangladesh: Opportunities and Challenges" has expressed Shipping is the essence of the global economy since it plays a strategic role in the growth of nations. However, about 70% ports of the world are unable to handle the ship which length are 200 meters or more due to the draught limitation. Due to draught problem very large vessels or mother vessels cannot call at Chittagong

Port. The another port is Mongla Port, but due to navigational limitation coupled with other constraints it cannot serve the purpose. In addition, Chittagong Port handles the feeder vessels transiting from Singapore or Colombo as large and deep draft vessels cannot transit to this port. The feeder service increases lead time and increase cost of transportation which ultimately put a burden on entire economy of the country [3]. To overcome these quandaries, he thought that the only alternative would be to establish a Deep Sea Port for Bangladesh. But he couldn't show the relationship between deep sea port and national development and how the deep sea port will help the national development of Bangladesh.

M. A. Shaikh (2017) et al in their paper "Necessity and potentiality of a deep Seaport in Bangladesh" disclosed that worldwide trade through port is rising day by day. There is absence of the adequate facilities in the existing three ports of Bangladesh but which are needed for smooth running of this trade in the country. One of the main limitation is draft problem. Being the world's largest Bay, all south Asian regional trade is done through the Bay of Bengal by ships. Nowadays shipping is reached at a position which is the most critical globalized trade of the world. Moreover the world trade is totally impossible without shipping, because of shipping, seaports are in huge demand over the globe. Economy of scale shows the present tendency of most of shipping company is to make larger ship in order to reduce operational cost. As a result, after a period of time, present three ports of Bangladesh will remain unused. Therefore, the necessity of a port with deeper channel is vital for the country to place larger vessel for reducing expenses and increasing sea borne trade as well as connecting many counties which will rely on the country. So that it can prevail the benefits of most of trading through Bay of Bangle. Finally, these privilege will affect the economic situation of Bangladesh and this will be improved dramatically [4]. But they didn't show how the advantages of deep sea port affect the economic situation of Bangladesh. The relation between deep sea port and national development will be shown by this work.

Halima (2003) explained in a study of the Impact of Port Efficiency and Productivity On the Economy of Bangladesh – A Case Study of Chittagong Port that the form of current international trade strongly depends on the competence of a port. A country's caliber center of foreign trade is seaport and that is the obligatory passage point for big amount of this trade. Seaport consents the import and export goods and export goods contribute to the development of economy of that country. In the time of globalization, world economy has brought about tremendous increase by export and import of goods all over the world. Port plays a vital role to compete with the ever-growing world trade which impacts on the national economy. The export and import trade represent successively a logistic element.

Alternatively, a port is an important portion within the logistic chain. Therefore, if the port is inefficient, freight and handling charge become high, that contributes to increasing the free onboard (FOB) export and import charge. Therefore, as a result of increasing price import costs become high and export faces powerful competition within the international market. To survive within the competitive market exporters, comprise less their profit margin with they get earlier. Port acts as a nodal point of foreign trade so port services are essentially intermediate to goods[5]. But she didn't show the way how the port becomes more efficient. One of the main limitation of Chittagong port is draft problem. For this reason, many modern ship can't enter to the Chittagong port. Now Chittagong port serves the feeder service regarding this problem. As a result, exporter and importer bear extra cost and it has a direct impact on our economy. The deep sea port is the solution regarding this constrains.

G.S Dwarakish(2015) et al in their article "Review on the Role of Ports in the Development of a Nation" expressed that Ports played a vast role in trade, commerce and politics even during the dark age. Ports are become the elementary component of the general transportation sector and these days joined to the increasing world economy. The transportation sector has become a robust consider in terms of economic and regional balanced development, additionally as conjointly having a good influence on national integration to the world economic market. These can bring variable degrees of advantages to the economy and to the country. Ports are vital for the support of economic activities within the country since they act as an important merger between ocean and land transport. As a provider of jobs, ports don't solely serve associate economy however conjointly social function. In terms of load carried, shipping transportation is that which offers the least expensive and more effective service compared to different systems. Industries need a secure and low cost able transportation system for their exports and imports. A high transport cost breaks the willingness of foreign investment, reduced exports of services, reduced access to technology and information, and a decline in a job. In the globalized world, companies seem to expand their businesses overseas through boosting up its exports. As a result, a country's gross domestic product is considerably affected by the flexibility of companies to export their product and services globally[6]. But they didn't express how the port reduces the transport cost, attracts the foreign investor. In this paper, it will be shown how deep sea port reduce the freight transport cost.

III. PROSPECTS OF DEEP SEA PORT ON NATIONAL DEVELOPMENT OF BANGLADESH

The changing global economy in 2016 has been on an improving trend than recent years. Stock markets are booming, oil prices are on rise again and the risks of a

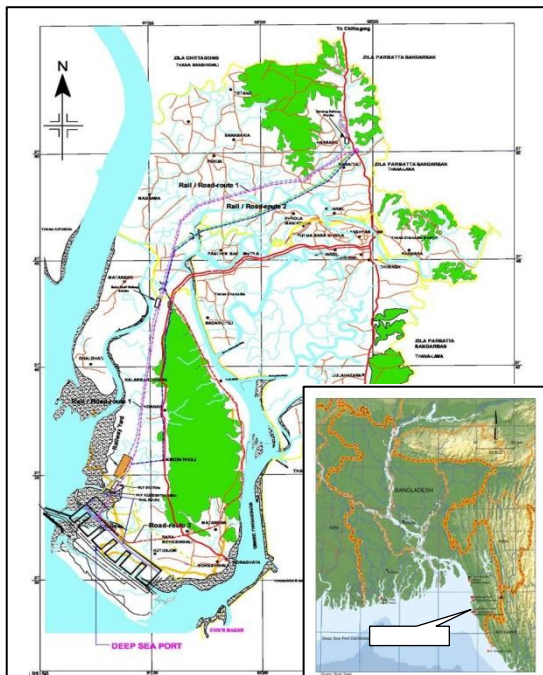
rapid economic slowdown in China, a major prediction a year ago, have eased. The primary factor underlying the strengthening global outlook over 2017–18 is the projected pickup in Emerging Market and Developing Economies (EMDE) growth and a gradual normalization of conditions in a number of large economies that are currently experiencing macroeconomic strains[7].

Figure 1: Sonadia deep seaport’s prospect act as a gateway of north, north-east and north-west, which includes seven north-eastern states.



Source: The Financial Express, e-paper, 25 October 2017.

Figure 2: Location Map of Sonadia Deep Sea Port



Source: Pacific Consultants International (PCI), Japan in association with AEC, Thailand and DECON, JPZ & DEVCON, Banglades, 2009.

Matarbari Coal-Fired Power Plant

The government of Bangladesh is scheduled to inaugurate the main construction work of the 1,200 megawatt power plant on January 25, 2018. “An area at the project site has been designated for setting up an LNG terminal and a coal terminal.” The ultra-super critical Matarbari power plant would require around 8,000 to 10,000 tons of coal daily. Imported coal will be supplied

to other coal-fired power plants across the country from this terminal[8].

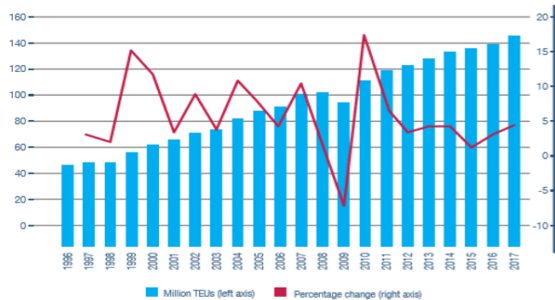
Increasing Gdp of Bangladesh

Bangladesh's gross domestic product (GDP) growth reached 7.90 percent this fiscal year of 2018, beating all the previous records in the history of the country’s economy, according to a provisional estimate by Bangladesh Bureau of Statistics (BBS). The Bangladesh economy has performed quite well in FY2015-16. The GDP growth was up to 7.11 percent from 6.55 percent of previous fiscal year. According to the final estimates of BBS. The economic growth reached the record high, riding on buoyant exports and robust agricultural outputs. Growth 6.4pc to 6.8pc in 2017-18: WB. Meanwhile, the World Bank said that Bangladesh’s economy is likely to grow between 6.4 percent to 6.8 percent in 2017 and 2018 [9]. Per capita national income reached US\$1,610 in FY2016-17, up from US\$1,465 of previous year[10]. This commendable GDP growth was balanced and broad based covering all the major sectors of the economy. It has already gone past the MDG target for key socio-economic indicators. Bangladesh is now on target to achieve the Sustainable Development Goals (SDGs) by 2030[7]. The present trend in world shipping is to have bigger ships to drive economies of scale, but Bangladesh can not realize the benefits due to limitations of its ports. Therefore, Government of Bangladesh intends to have a full-scale techno-economic feasibility study for the construction of a deep seaport (DSP).

Increasing World Containershipping

The total international seaborne containers handled at the ports in the world increased by 45.4%, from 231.7 million twenty-foot equivalent units (TEU) in 2000 to 336.9 million TEUs in 2004 or at an annual growth rate of 9.8%. A modest expansion of 1.2 per cent in 2015, global containerized trade expanded at a faster rate of 3.1 per cent in 2016, with volumes attaining an estimated 140 million twenty foot equivalent units (TEUs) (MDS Transmodal, 2017[11]. The remarkable growth was experienced in China, whose container freight traffic increased from 41.0 to 74.5 million TEUs during the same period, exhibiting higher annual growth of 16.1%. According to United Nations, the total number of full containershipped internationally was 68.7 million TEU in 2000, and it is expected to grow to 138.9 million TEU in 2010 and 177.6 million TEU in 2015 excluding empty containers and full containers handled at discharging and or transshipments. This is equivalent to 7.3% of annual growth during 2000-2010 and 5.0% during 2010-2015. To identify the realistic container handling volumes at all ports in the world, it can be estimated to multiply by 3.37[12]. Increasing of global containerized trade from 1996 to 2017 and it’s percentage of change is shown in figure 3.

Figure 3: Global containerized trade, 1996–2017
(Million 20-foot equivalent units and annual percentage change)



Source: UNCTAD secretariat calculations, based on data from MDS Transmodal, 2017.

The major growth in international container trade/traffic in the period 2000-2015 is expected in Eastern and South Asian countries. On the contrary, countries in North Asia, North America and Europe are forecasted to lose its shares gradually in the same period.

Increasing and Expected Container trade in Bangladesh (2006-2055)

The container volume to and from Bangladesh is estimated to increase by 8.1% per year during 2006-2020, 7.4% per year during 2021-2035 and 3.6% per year during the period 2036-2055. This means, international ports in Bangladesh may handle 2.6 million TEU, 7.4 million TEU and 14.9 million TEU of containers in 2020, 2035 and 2055 respectively [12]. This is a huge opportunity for Bangladesh. Container trade increasing means export and import are increasing. The present trend in world shipping is to have bigger ships to drive economic so far, but Bangladesh can not realize the benefits due to limitations of its ports. Therefore, Government of Bangladesh intends to have a full-scale techno-economic feasibility study for the construction of a deep sea port (DSP). The sharp increase in world container traffic throughout the decade wielded influence in many fields. Shipping industries sought to increase the scale of the service capacities by forming strategic consortium, acquiring other shipping lines, and introducing numbers of large sized vessels in the market. Increased and Target Container Volume for each ports in Bangladesh is shown in table 1.

Table 1: Increased and Target Container Volume for Each Ports in Bangladesh (1000TEU)

Port /Year	2006	2015	2020	2035	Total 2055
The DSP	0	0	1,780	7,142	17,572
International	0	0	1,454	5,456	13,477
Domestic Feeder	0	0	553	2,073	5,121
Chittagong Port	827	1,833	1,500	2,000	2,000
International	827	1,833	1,300	1,000	1,000
Domestic Feeder fm/to DSP	0	0	200	1,000	1,000
Mongla Port	26	33	47	89	211
International	26	33	26	0	0
Domestic Feeder fm/to DSP	0	0	21	89	211

Dhaka & Other IW Ports	0	(0)	(332)	(984)	(3,910)
International	0	Na	Na	Na	Na
Domestic Feeder fm/to Exist. Ports	0	Na	Na	Na	Na
Domestic Feeder fm/to DSP	0	0	332	984	3,910

Source: Pacific Consultants International (PCI), Japan in association with AEC, Thailand and DECON, JPZ & DEVCON, Bangladesh, 2009.

Non Container (Bulk) Shipping

Annual growths of major cargo such as iron ore, fuel coal and crude oil in 2005-2015 are estimated 4.4%, 6.9%, and 2.2% respectively. In 2016, world seaborne tanker trade – crude oil, refined petroleum products and gas – continued to grow amid a surplus in oil market supply and low oil prices. Total volumes reached 3.1 billion tons, reflecting an increase of 4.2 per cent over the previous year [12]. Worldwide non container shipping is increasing as well as in Bangladesh and it is shown in tables 2, 3, 4, 5.

Table 2: Oil and gas trade, 2015 and 2016 (Million tons and annual percentage change)

Commodities	2015	2016	Percentage change 2015-2016
Crude oil	1716	1838	4.3
Petroleum products and gas	1171	1218	4.0
of which			
Liquefied natural gas	250	268	7.2
Liquefied petroleum gas	79	87	10.1
Total tanker trade	2932	3055	4.2

Source: UNCTAD Review of Maritime Transport, 2017.

Table 3: Dry bulk trade, 2015 and 2016 (Million tons and annual percentage change)

Commodities	2015	2016	Percentage change 2015-2016
Five major bulks	3121	3172	1.6
Of which			
Iron ore	1364	1410	3.4
coal	1142	1140	-0.2
Grain	459	476	3.7
Bauxite/alumina	126	116	-7.9
Phosphate rock	30	30	1.0
Minor bulks	1706	1716	0.6
Of which			
Steel products	406	404	-0.5
Forest products	346	354	2.3
Total dry bulks	4827	4888	1.3

Source: UNCTAD Review of Maritime Transport, 2017.

Table 4: Increased and Forecast bulk cargo Volumes for Chittagong Port (1000 tones)

Commodities	2012	2018	2023	2028	2033	2038	2043
Dry Bulk	16,891	23,145	29,879	37,288	45,323	51,766	55,470
Liquid Bulk	6,935	9,368	10,372	11,184	11,853	12,414	13,128
Other Bulk	4,100	3,980	3,956	4,017	4,180	4,381	4,661
Total Bulk	27,926	36,493	44,207	52,489	61,356	68,562	73,260

Source: Strategic Master Plan for Chittagong Port–Final Report, Part 1, 2015.

Table 5: Increased and Target General Cargo Volume for Each Ports in Bangladesh (1000ton)

Port /Year	2006	2015	2020	2035	2055
TheDSP	0	0	3,290	16,528	39,556
International	0	0	2,384	11,977	28,664
DomesticFeeder	0	0	906	4,551	10,892
ChittagongPort	6,949	7,169	8,000	8,000	8,000
International	6,949	7,169	8,000	8,000	8,000
DomesticFeeder fm/toDSP	0	0	0	0	0
Mongla Port	107	361	709	1,134	1,424
International	107	361	709	1,134	1,424
DomesticFeeder fm/toDSP	0	0	0	0	0
Dhaka&OtherIW Ports	15,370	0	906	4,551	10,892
International	843	Na	Na	Na	Na
DomesticFeeder fm/toExist .Ports	14,527	Na	Na	Na	Na
DomesticFeeder fm/toDSP	0	0	906	4,551	10,892

Source: Pacific Consultants International (PCI), Japan in association with AEC, Thailand and DECON, JPZ & DEVCON, Bangladesh, 2009.

IV. EFFECTS OF DEEP SEA PORT ON NATIONAL DEVELOPMENT OF BANGLADESH

A determinant of the port performance is the economic activity in a country, region or the hinterland. However, the link between port performance and the macroeconomic conditions can also be seen the other way around. Because ports play an important role in domestic and international trade, they seem to have an effect on the local and national economic development (Jung, 2011) [13]. The port activity can have an impact on the economy in terms of GDP or other measures, but also in terms of employment. It is widely accepted that ports play an important role in the growth and development of economies on local, regional and national levels (Li-zhuo, 2012 [14]; Deng, Lu, & Xiao, 2013 [15]. Li-zhuo(2012) argued that the development of port logistics influences the cost and efficiency of the production sector and that investments in the logistics infrastructure have a positive effect on the economy[14]. This can be explained by the fact that better port logistics help reduce the transportation costs in the production sector and increase the efficiency. This will have effects on economic growth. Li-zhuo(2012) describes the multiplier effect: the national income will increase several times as a result of the investment in port logistics, because the need of factors of production, materials and new technologies and equipment will be stimulated [14]. To test whether this argumentation is correct, an empirical research for the Qinhuangdao port in China from 1995 to 2010 was conducted by Li-zhuo(2012). The gross domestic product (GDP) of Qinhuangdao was used as a variable of economic growth, while the ports logistics were indirectly measured by the throughput of goods[14]. So actually, the study examined the link between port throughput and GDP. The results showed that the port logistics or throughput growth influences the increase of GDP, but the impact of GDP on port logistics or throughput was

small and not significant (Li-zhuo, 2012). This indicates that the growth of port logistics and therefore the port throughput are important for the development of the local economy, but not the other way around. In this context, one can also refer to the port as an industrial cluster, a port cluster is a group of geographically concentrated and business related companies [14]. They all supply port-related services in the port area such as storage, production and transportation, relying on the advantages of port location, infrastructure and services (Langen, 2004) [16]. In the end, the port becomes a cluster and an economic centre and contributes to the national, regional or local economy (Langen, 2004; Li-zhuo, 2012)[16][14]. Because the location and infrastructure of a port can attract firms of the same business, the port area and its throughput seem to have a positive influence on the economy. Deng, Lu and Xiao (2013) studied the impact of port demand, port supply and value same way, port demand had an indirect effect on the regional economy via the value added activities. The reason of employment is a part of the local or national economy, the question raises whether the port activity has an impact on the employment [15]. On the one hand, ports seem to have a great positive impact on local economies and create a higher employment. However, the developments of more capital intensive handling systems in the shipping industry and the container market reduced the effect on direct employment. added activity in port on the development of the regional economy for five coastal port clusters in China. The results showed that port supply had a significant positive relation with port demand, port demand turned out to be significantly related to value added activity and value added activity had a significant influence on the regional economy, while port supply and port demand turned out not to have a direct significant effect on the regional economy. Instead, port supply proved to have an indirect impact on the regional economy via port demand and value added activity in port.

The Effect of Deep Seaport on National Economy

To evaluate the total economic impact of a port there are three major components. Those are direct, indirect, and induced impacts. Direct impacts account for all activities which is essential for port operation and use for port facility. Indirect impacts are the outcomes of the direct impacts. Indirect impacts refer to all economic activities of off-site firms that serve port users. Induced impacts are economic impacts formed by the expenditure of wages, remunerations, and revenues earned in the sequence of the direct and indirect economic activities. Induced service is employment produced from expenses by individuals employed indirectly or directly. The total impact is the sum of direct impact, indirect impact, and induced impact.

Direct Effect

The country's international trade is increasing day by day and currently it accounts for on an average USD\$ 60 million annually[17].Over 80% of country's

foreign trade is carried through sea. It is expected that approximately following amount of cargo will be handled by deep sea port of Bangladesh and it is shown in table 6.

Table 6: Target Cargo Volume of Sonadia Deep Sea Port

CargoType	ShortTerm (2020)	MediumTerm (2035)	LongTerm (2055)
GeneralCargo (1000Ton)	2,384	11,977	28,664
Container (1000TEU)	1,454	5,456	13,477

Source: Pacific Consultants International (PCI), Japan in association with AEC, Thailand and DECON, JPZ & DEVCON, Bangladesh, 2009.

Port is the significant source of earning foreign currency by ships and containers handling. With the increase of ships and containers, foreign currency income is also increasing. It is anticipated that deep sea port will increase the income of foreign currency and will contribute in GDP significantly.

Indirect Effect

Associated industries and port user such as Export Processing Zones (EPZ), Dry Dock, Fisheries, Customs, Importers, Exporters, Bank, Freight Forwarder, C&Fs (Customs Clearing and Forwarding Agent), Shipping Agent, Inland Container Depot (ICD), Railway, Truck and Ferry Service, Insurance Companies and so on are benefitted directly from port. Their existence and affluence depends on port activities, developments, and expansion. Moreover, deepsea port will generate huge employment opportunities for unemployment people of that region of the country.

Induced Effect

Induced impacts are resulted from the activity of direct and indirect impact. The benefits that filter through to the suppliers of input factors, such as income to labor directly employed in port related activities, and income to industries supplying the ports with goods and services and which creates indirect employment. The induce benefits from induce impacts in developing economies are frequently curtailed by lack of capital and skilled labor. In Bangladesh, the degree of induce impact is less than 50% but it is still notable.

Establishment of Economic Zone

Bangladesh is the 2nd largest exporter of Readymade garment (RMG) sector in the world[18]. A Special Economic Zone can be set up near to port and can be easily exported within shortest possible time. Other industrial sector will also be established near port area. Government of Bangladesh is planning to give some facilities to attract the foreign traders and to build industrial sector near the port area.

Effects on Fertilizer Factory

Bangladesh is an agriculture based country and heavily dependent on fertilizer. Presently approx. 30% of fertilizers are produced in the country and remaining about 75% are imported. Due to lack of sufficient gas, this sector was not developed in the country. Liquefied natural gas (LNG) terminal is planned to build in Matarbari (Bangladesh) area where fertilizer factory can

be constructed to meet the internal requirement of fertilizer. The new terminal will enable the government-owned national oil company of Bangladesh Petro Bangla to procure LNG from international gas markets which will further complement and enhance Bangladesh's ability to reliably use the country's domestic natural gas reserves. Expanding access to diverse and abundant sources of natural gas supply will allow local communities to flourish and provide a net economic benefit for the Bangladesh economic growth engine for years to come[19]

Effects on Energy Sector

The consistent economic growth of Bangladesh is the pride for them. Energy is the prime requirement for any development works. Bangladesh government has set a goal to move the country into middle income by 2030 for which they need to make necessary arrangement of power supply. With that goal, Bangladesh government has already taken steps to set up 5/6 coal fired power plants along the coast[20]. This will necessitate to build a coal terminal with storage facilities which will generate huge revenue for the port.

Huge Employment Opportunity and Poverty Reduction

Taking the burden of 160 million people with 5.1% unemployment rate, 40% under employment and 49 percent below poverty line, population is considered to be the main problem of Bangladesh. As per statistics, the population of the country is doubled within last 43 years and it may cross 200 million by 2025 requiring a huge investment to create new jobs. Besides, the port will also create thousands of indirect jobs in port related business like Export Processing Zones (EPZs), Special Economic Zones (SEZs), Shipbuilding and Repair Facilities etc.

Ship Building Industry

After RMG, ship building has become the fastest growing industrial sector in Bangladesh. Besides, ship breaking industry has also good prospect in Bangladesh. More than 100 small ship builders are producing ships and a few renowned companies are exporting ships to Europe and Africa. The ship building market is about US \$ 400 billion and if Bangladesh can bring 1% from that then it is US \$4 billion[21]. Producing ships for international customers, ship building in Bangladesh is going to be the second largest exporter after garments by 2017. But one of the hurdles for those ship builders is draught limitation in channel where they construct ships.

Reaching Middle Income Country By 2021

Bangladesh's aspiration to become middle income country is envisaged by many corners of the country including foreign think tank. So, the development of seaports would be essential for sustained increase of export and import to support the trade and commerce of the country.

Allow Exploration of Offshore Resources

The Bay of Bengal is reported to be highly rich in hydrocarbon resources. It was proved by the Indian discoveries in the Krishna Godavari Basins and also by massive oil and gas finds in Myanmar. While official

sources quote a figure of 100 trillion cubic feet of gas reserves in the region, unofficial estimates the reserves at 200 trillion cubic feet of gas. Bangladesh now start drilling for oil and gas within 200 nm and beyond 200nm out to sea. The discovery of new oil and gas will help the country to meet its domestic demands and the government could also generate capital by allocating blocks to international companies for further exploration. In this regard deep seaport will help to allowing modern equipped deep draft vessel.

Effects on women and children

About 47% of the total population of Bangladesh are women. Most of the female members of the households are engaged in household activity. Women are, remarkably, involved with income generating activities (IGAs) at household level like poultry rearing, cattle rearing, vegetable gardening, etc. A large number of girl child are involved in catching fish fry. The household size in the project area is 6.1, which is higher than the national average size. The port development will provides ervice facilities in respect of family planning and health services that will the help in bringing the population growth down to national level. The polygamy rate is higherth another area. The port will generate employment opportunity for all men and women and consequently the gender situation will improve[12].

Employment, Poverty Alleviation

Majority of employed population of the coastal area of Bangladesh are labour (20.3%), followed by salt production (16%), small scale business (15.8%) fishing (14.4%) agriculture (7.9%) retired/old and unemployed (13.3%) and remaining 12.4% make others, which includes; trading service, forestry, rikshaw/tempo driver and shrimp firming etc. It is to be mentioned here that although a large number of area is used for shrimp farming, but only an egligible number (0.7%) of people are engaged in its operation. The shrimp cultivation is mostly done by the outsiders and only some local people work there as labouror they lease them their land. The port will create employment opportunity for local people in port related activities. The employment in port related activities will be more remunerative and on sequently the income of local people will increase.

V. CONCLUSION

Seaports remain an important factor for the transportation of trade, wealth, and cultural exchange. The extensive use of the sea as the cheapest and easiest means of mass transportation has contributed to the world trade, commerce, and industry. Seaports, therefore, remain as the junction of trade and economic development which in turn assures prosperity of the states. The economy of Bangladesh is heavily import and export oriented and sea is the principal mode for transportation. The economy of the country largely depends on concurrent two major sea ports Chittagong and

Mongla Port. Hence the seaports play a vital role directly or indirectly in shaping the country's economy. Seaports are capable to create hundreds and thousands of jobs and contribute in earning huge amount of foreign currency. The Bangladesh economy is rapidly getting integrated with the rest of the world. GDP growth of Bangladesh has been around 6 percent in the past decade along with increasing exports, imports, and remittance. Such trend of trade has poised tremendous pressure on existing seaports.

In order to overcome the existing difficulties, development of alternative port was always a consideration by the government. Appropriate measures including computerisation of the entire port operations and implementation of an integrated transportation system with hinterland would turn deep seaport into an effective port in this sector and a regional hub for trade and commerce. It is said that a port can change the fate of a nation and Deep Seaport could be such a port for Bangladesh.

Finally, it could be said that in the foreseeable future the contribution of Deep seaport in national economy will be noteworthy.

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