

An Empirical Study on Project Logistics at EPC Projects of Bangladesh

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Abstract:- Asset/non-asset-based domestic and foreign logistics conglomerates are introducing themselves as project logistics experts for heavy equipment handling, over-dimensional cargo (ODC) specialists, multimode transport planners, and project documents handlers to satisfy customer demand and reliability. They aim to improve operational efficiencies and increase return on investments to compete in a dynamic market of Engineering, Procurement, and Construction (EPC) projects of Bangladesh through focusing on strategic, and operational planning as well as control for sustainability and growth. The purpose of this paper is to demonstrate the breakbulk handling process, multimode transportation planning, route survey method, necessary approvals, execution planning, essential tools, techniques, and types of equipment for logistics operation. It elaborates the dynamics of project-based logistics, and the spiral affects how logistics can play a significant role in EPC projects. In addition to this, the study identifies external factors, market trends, and the potential barriers which influence the overall performance of EPC contractor. This study performs a series of qualitative and quantitative analyses on secondary data that encompassed few major logistic projects in Bangladesh. The paper identifies opportunities to improve project logistics performances in terms of planning, design, and operations. The authors provided some recommendations that would help the industry practitioners achieve a higher level of productivity in project-based logistics. Furthermore, the given iterative and efficient research techniques would help the researchers contribute further to this knowledge domain.

Keywords:- Project Logistics, Operational Process, Transportation Planning, Jetty Construction, Stowage plan.

I. INTRODUCTION

Most people in the supply chain project management industry are becoming well-known with the term 'project logistics'. It revolves around an integral part of any short-term or long-term project in logistics management. This study discusses this term and then focuses on the unique aspects in the industry.

A. The definitions and understanding of Project Logistics:

The Council of Supply Chain Management Professionals (CSCMP, 2016) defines logistics management is that part of supply chain management that plans, implements, and controls the efficient forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption to meet customers'

requirements [1]. Logistics by definition are the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers [2].

We see that logistics management is a subset of supply chain management. Considering the discipline of project management for a moment, we see that this overlaps onto supply chain management. In so far as construction industry, a new facility is concerned with materials and services which need to be available when needed by the construction crew. This is illustrated in Figure 1, the overlap between the two terms 'project supply chain management' and 'project logistics management' gives rise to the term 'project logistics'. Project logistics is a subset of logistics, whereas project supply chain management a subset of supply chain management [1].

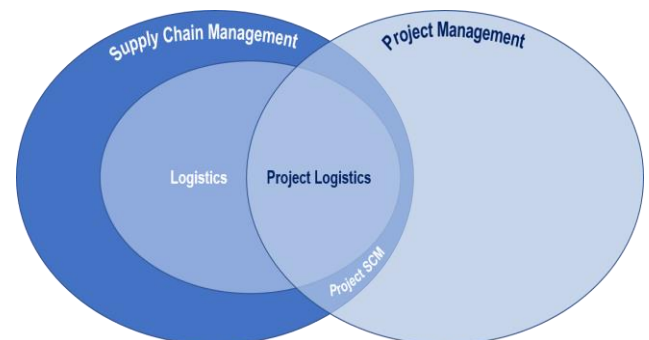


Fig. 1: Project logistics in perspective [1]

This begs the question: is project logistics then just simplified logistics? The answer is 'yes', in the sense that there is only inbound logistics, with perhaps some reverse logistics to return faulty equipment. However, every project is unique, and every project site is different. This effectively means that for every logistics project, every supply chain is new and has not had the benefit of supply chain optimization and fine-tuning [1].

B. The Story

The freight and logistics industry came into being during 1991-92 in Bangladesh without any prior experience, which suffered due to the lack of skilled workforce and required communication skills. Despite the absence of proper government regulations and policies along with inexperienced exporters and importers, the industry has gained more significance and managed to reach imported goods worth about USD 52.84 billion during the fiscal year 2017-18 and exported products worth about USD 36.67

billion, according to data from the Bangladesh Bank. The country also generated more than 40,000 jobs directly during the past 30 years and become one of the crucial sectors that is contributing to the economic growth of the country. Kuwait based Agility Global Integrated Logistics "The Agility Emerging Markets Logistics Index (AEMLI)" 2018 considered Bangladesh as one of the 45 major emerging markets in the world. The Index evaluated the country's logistics industry as highly progressive. Yet, it mentioned that the country needs to address major challenges, such as the need for improvements in infrastructure and the need for diversification to other manufacturing segments beyond the apparel sector and the need for improvements in its pharmaceutical, steel, shipbuilding, and food processing industries in order to record exponential market share in the future. The country also needs to focus on improving ways to strengthen its transport and logistics systems in order to meet the needs of its growing economy, and to boost export growth. By emphasizing the logistics industry more efficiently, Bangladesh can significantly boost export growth [5].

Bangladesh has slipped to the 100th position in World Bank's Logistics Performance Index (LPI) 2018 from an earlier 82nd position in 2016. The industry is still struggling to improve the performance compared to its neighboring country India, which stood as the regional top and ranked 44th for the same year. The substantial decline in important avenues has made Bangladesh witness a downward trend in four indicators [5]. In this study authors will try to give the holistic view of project logistics, problem areas, and the improvement suggestions.

C. *Thoughts of Country legends*

The authors must include the thoughts of the country's famous business tycoon Mr. Salman F Rahman, 'An efficient logistics system was very crucial for achieving the economic target set by Bangladesh. The government had taken initiatives to fulfil the required development of infrastructure, and all would be meaningful if the country's logistics became efficient and cost effective' [2].

'Without proper infrastructure, logistics cannot run correctly. Due to disruption in logistics, inflation goes up, cost of doing business increases and the country loses its competitive edge' said Syed Ershad Ahmed, managing director of Expeditors Bangladesh Limited [2].

II. AIM OF THE STUDY

Country moving from developing countries to developed country, hence lots of development works are under process and more new projects are coming to develop the infrastructure and Power/energy sector. Increasing projects creating demands for project-based logistics activities every day. EPC contractors are mostly depending on foreign project logistics experts because of their international project handling capabilities, reliability as well as use of modern technologies. Domestic logistics companies are still moving with traditional approach, and they need to develop their project management skills, technical expertise, and capabilities to compete with foreign project logistics

companies. This study will be representing the basic understanding of project logistics, requirements, challenges, and recommendations to the current and future conglomerates of this logistics industry.

III. BACKGROUND OF THE STUDY

Local logistics companies are working as a subcontractor under a project logistics agreement with the main foreign logistics companies. A huge number of works are being executing by domestic project logistics companies, but they are not allowed to be introduced as the main contractor due to lack of expertise on project logistics and technological knowledge. Therefore, EPC contractors are more interested and dependent on foreign experts.

IV. MATERIALS AND METHODS

Based on the interview discussion and authors personal experience the paper has demonstrated the concepts and explanation on project logistics operations and examples such as method statement, survey report, heavy lifting operations, jetty planning etc. Some materials have been collected from professional email communication, online articles, research papers, newspaper, and other internet sources. All the materials reference will be given in the reference chapter of this study.

The authors took personal interview of two project logistics expert professional from two business group such as higher management of a leading domestic project logistics company and another higher management from leading international project logistics company. After scrutinizing the interview discussion, authors converted them to study materials and organized the related chapters as per their thoughts and feedbacks.

V. RESEARCH AND OBSERVATION

Project logistics are becoming the crucial element of EPC project. The difference between general logistics and project logistics are quite significant and we shall describe a brief overview for most important tasks of project logistics in this chapter. By describing the main tasks, we shall cover how foreign companies are taking the lead by getting help of domestic companies and why EPC contractors are dependent on project logistics companies for their logistics tasks.

A. *Project Logistics Work Scheduling and Time Management*

Time management and project scheduling are the bread and butter of any project logistics manager's work. Project logistics scheduling is the process of breaking down a project into its constituent activities and allocating resources for them. One must factor in the resources available and how to best utilize them [5]. There is several project scheduling software available, but the most used application is smart sheet. Task management is where one lists and manages the tasks involved in accomplishing logistics project activities.

One can schedule work plans, important tasks, responsible persons and monitor the progress. One can save time by preparing a strategic project schedule. One's project

schedule should be realistic and align with the EPC project deadlines. For example: if someone is working for a 230/132 KV GIS substation then the main logistics task is to handle the transformer from seaport to project site. One need to check the customer deadlines and the priority of the project manager. One must make the schedule based on the project site requirement, such as, route survey, multimode transportation arrangement, manpower utilization, necessary permission, approvals, delivery lead time etc. These all are very important tasks as a transformer is the heart of an electrical substation. If the schedule and time management fails then cost will automatically increase. An effective and strategic scheduling can help to reduce time, cost, and waste of both parties.

B. Cost Management

As a project logistics manager, the project budget is the canvas for someone to work with. What one can do (and can't) will depend on the project available budget.

Since budget is usually fixed, managing the project costs becomes a vital skill for project logistics managers. While the quality of the final work is important, what often matters more is whether one is able to deliver the work within budget [5]. Failure of maintaining budget will directly impact on total profit of the project. Hence, cost should be regularly monitored and reviewed by logistics project manager.

C. Supplier Selection Criteria

Selecting supplier is one of the toughest jobs for an EPC contractor. One must consider a predefine check list for scope of work and selection criteria while finalizing the logistics supplier. For example, if someone are sourcing a logistics supplier for handling a 400 Tons transformer than the main selection criteria will be:

- Experience of handling similar project and cargo/products
- Asset strength (own tools and vehicles)
- Adequate skilled manpower
- Route survey report and method statement for handling 400 Tons transformer
- Transport planning
- Fitness certificate, load chart, 1st party insurance, heavy vehicle driving license, inspection/survey report from authorize inspection company (like SGS)
- Scheduling, maintenance, and cost management

D. Multimode Transportation and Execution planning

EPC contractors makes firm agreement with project logistics service provider on turnkey basis for the entire logistics work including customs clearance, cargo transportation and handling. Due to road weight permission restriction, project locations cargo volume, dimensions, cost convenient and customer preferences, the logistics companies sometimes transport the cargo through multimodal route planning, such as sea, river, jetty, road etc. Let's discuss the execution planning and activities for handling the breakbulk heavy weight cargoes in a brief for a better understanding of the importance of expert project logistics companies.

a) Route Survey

Route survey is the first step in the total process of multimode transportation and execution planning, here a logistics manager must evaluate the entire transportation process along with the route, which will be used to transport the cargo.

- The port which will be used to unload the cargo from vessel and load it on barge/trailer
- The jetty where the barge will be unloaded, and trailer will be loaded.
- Obstacles to prepare and doing operation in the jetty by a topographical1 & bathymetric2 survey.
- Feasibility of the entire road from the jetty to the delivery location.
- Obstacles in the road which will needs to be minimized to make the transport pathway free for operation.

For survey data acquisition and developing, a few technical software needs to be used. All data coming from survey inputs need to be processed and quality checked using software. Among the software, logistics companies use Topcon tools, CD Sand, AutoCAD etc. All process data are transferred into drawing and represented in AutoCAD plan.

The depicted photo is an example of a typical topographical survey output from AutoCAD. It shows the detail information of the surrounding area where both the LOLO3 and RORO4 jetty to be constructed, it is showing the electric line and pole, trees, permanent and temporary structure of that area. It also shows the ground elevation with reference to the Main Sea Level (MSL) of the area through the green lines, which is very important for the barge movement round the year. In the drawing each of the green line is having the same depth and the less greenish line means more depth.

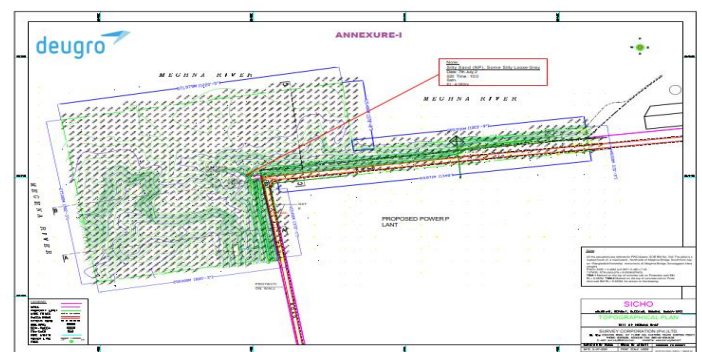


Fig. 2: Sample drawing of a typical topographical survey report [4]

¹ Topographical Survey- For Topographic Survey Total Station is used to establish the planimetric control. Apart from that it is also used for setting out the demarcations or the boundaries. [4]

² Bathymetric Survey- Hydrographic Survey is the science of measuring the bottom surface of the river. This measurement is done by Hondex PS7 Portable Depth Sounder.

³ LOLO - LIFT-ON/LIFT-OFF

⁴ RORO - ROLL-ON/ROLL-OFF

b) Jetty Construction (LOLO & RORO)

LOLO Jetty: LOLO stands for LIFT-ON/LIFT-OFF, the main activity of LOLO jetty is to be lifting and unloading cargo from barge and reloading into the trailer by a crane. Crane capacity is decided as per the maximum load and dimension of the cargo.

In Figure 3, it shows the placement of a 250-ton crawler crane in top of a LOLO jetty which is ready for operation. Figure 4 shows the lifting of ODC⁵ from the barge by the same crane show previously [10].



Fig. 3: Lifting Crane for LOLO Jetty Operation

Fig. 4: Lifting from barge to trailer at LOLO Jetty

The structure of the temporary jetty is a simple retaining wall using 20ft / 40ft containers filled with sandbags, lean concrete mixer (1:2:4) bags or some concrete blocks with boulder foundation at base. Wooden (bamboo, balli) piling is used for the toe protection for the retaining wall and the balli piling is not to be used to take any vertical load. Considering project cargo weights / proposed loads, which are set at a maximum of 7 tons per square meter on the retaining structure, it is considered very much feasible and safe. Here, it is to be noted that the loading is of occasional times, hence, it may be treated as transient condition like earthquake [4]. The design and drawings of the Retaining Wall are shown in Figure 5.

As per project cargo list, cargo is up to 40tons loads shall be off loaded using suitable 200 tons / 300 tons crane. Therefore, crane extended jack loads on LOLO Jetty through steel mats shall be approximately 7 Tons per square meter, including self/dead weight of the crane and its counterweights. Total capacity of LOLO Jetty as per Figure 5 is over approximately 900 tons [4]. The lifetime of this jetty will be around 2 years subject to proper maintenance.

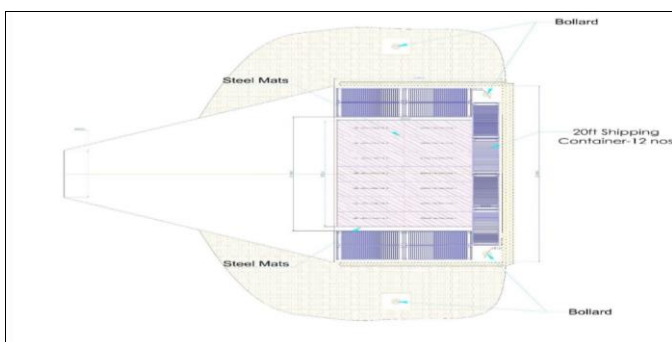


Fig. 5: Plan/Bird View of LOLO Jetty [4]

It is showing the TOP view of the jetty where all the Component of the jetty has been described, such as- bollard, steel mats, placement of 20ft container, along with all the dimension of the jetty.

RORO Jetty: RORO stands for ROLL-ON/ROLL-OFF, RORO jetty could be described cargo that are driven on and off the Barge on their own wheels or using a platform vehicle, such as a self-propelled modular transporter. Refer to Figure 6 the photo showing a RORO jetty in the Middle of a Roll off Operation, where the heavy-Duty Modular transporter is going under the Cargo to jack it up and roll off.



Fig. 6: Roll off by a Modular transporter [4]

Meghana riverbed Soil Strata was silty sand (Mostly) with little clay, the bearing capacity is approx. 1.95 Tons per square feet strength. As per provide cargo list cargo loads per sqm between 5 tons to 7 tons per Square Meter on RORO Jetty structure and Jetty approach roads, here, it may be noted that the loading is of short-term nature (transient condition during RORO operations) [4].

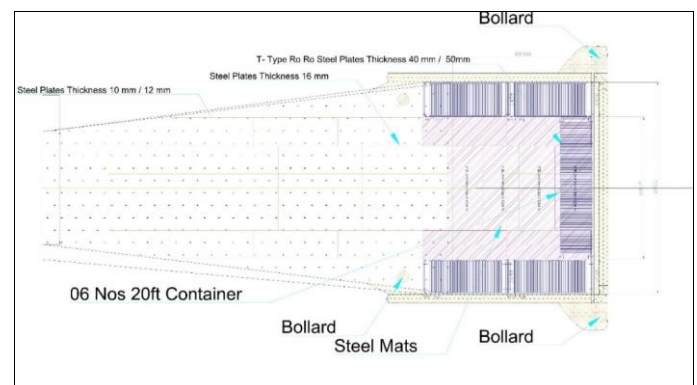


Fig. 7: Plan / bird view of RORO jetty [4]

Figure 7 shows the top view of the jetty, where all the component of the jetty has been described, such as- bollard, steel mats, placement of 20ft container, T-plate, steel plate, along with all the dimension of the jetty.

Figure 8 shows as sample calculation of the mathematical procedure to find out the allowable bearing capacity of a jetty. We can use the same calculation to compute the approach road capacity for any other types of temporary jetty.

⁵ ODC – Over dimensional cargo

CALCULATION OF BEARING CAPACITY FOR SHALLOW FOUNDATION { Refer IS:6403-1981 }	
for, Angle of friction, ϕ' = 23 Deg. , Cohesion c = 10 KN/M ²	Assumed from soil classification & experience of soil characteristic of Meghana River
Bearing Capacity factors, Nc = 18.364 Nq = 8.956 N γ = 8.684	
FOR PIER	
Depth of foundation level from bed Level = 3.000 M.	
Width of foundation base, B = 15.00 M.	
length of foundation base, L = 10.00 M.	
Bulk unit wt. of soil, γ = 17.50 kN/m ³	
Submerged unit wt. of soil, γ = 10.02 kN/m ³	
<i>As per cl. 5.1.2 of IS:6403-1981</i>	
Ultimate Bearing capacity, $q_u = c' N_{c_s} d_{c_s} i_{c_s} + q_c (N_q - 1) s_{q_s} d_{q_s} i_{q_s} + 0.5 \gamma \times B \times N_{\gamma_s} s_{\gamma_s} d_{\gamma_s} I_{g_s} W'$	
$s_{c_s} = (1+0.2 \times B/L) = 1.300$ $s_{q_s} = (1+0.2 \times B/L) = 1.300$ $s_{\gamma_s} = (1-0.4 \times B/L) = 0.400$	
$d_{c_s} = (1+0.2 \text{ Dt/B}) \cdot N_{c_s}^{0.5} = 1.120$ $d_{q_s} \text{ \& } d_{\gamma_s} = 1+0.1 \text{ Dt/B} \cdot N_{q_s}^{0.5} = 1.007$	
$i_{c_s}, i_{q_s}, i_{\gamma_s} = 1.000$ $W' = 0.500$ --- Submerged cond.	
$q_u = 809.77 \text{ KN/M}^2$	
Net allowable bearing capacity at foundation level , with S. F. = 2.5 $P_s = q_u / S.F. = 323.91 \text{ KN/M}^2$	
Take, Allowable Bearing Capacity at base, $P_s = 320.00 \text{ KN/M}^2$	

Fig. 8: Sample calculation of bearing capacity for shallow foundation [4]

Figure 9 shows the 225 tons generator transport technical drawing on 12 axles hydraulic trailer, based on this hydraulic configuration, the allowable load is set at 5 tons per square meter. The Gas Turbine (GT) allowable load on 14 Axle hydraulic trailer is set at 5.54 tons per square meter.

- GT (Gas Turbine) weight – 225 tons
- 14 axles Hydraulic Trailer weight – 49 tons
- Total Gross weight – 274 tons
- Trailer footprint area – 63 sqm
- Load – 4.35 tons per sqm
- Total capacity of RORO Jetty – over 320 tons

T-Steel plates (25mm to 50mm) / RORO ramps shall be used between barge and temporary RORO jetty head during roll off operations. Steel plates between 10mm to 20mm shall be laid on top of the jetty approach road. Ribs will be welded on steel plates tops for trailer traction forces and all steel plates shall be locked temporarily [4].

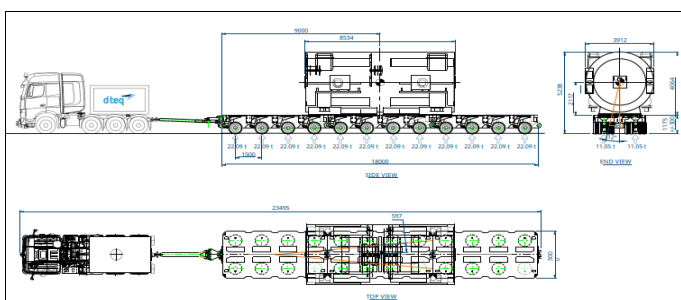


Fig. 9: 225tons generator transport technical drawing [4]

a) Stowage Plan

First, we must consider the stowage plan along with the discharge sequence of the vessel. A complete survey report in both loading and unloading port could be handy over here. Also, a proper stowage, stooling and lashing plan

is mandatory to claim the insurance from the insurance company after an accident by proving that everything was preplanned in a secure way. Figure 10 shows the exact location of each of the cargo on the vessel named Industrial Ruby, in both an elevation and plan view. This drawing is usually created by vessel company/shipping line which is handed over to the logistic company for clear view of the cargo positions in vessel.

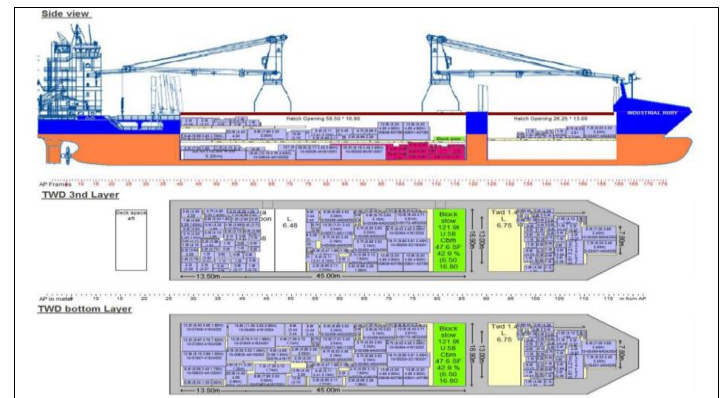


Fig. 10: Stowage plan of breakbulk vessel Industrial Ruby [4]

Considering the discharge sequence, we must plan which item need to be placed where and be secured in appropriate location of the barge. Also considering the dimension and weight of the cargo, we must plan the stooling detail. During the stooling detail, saddle position of the cargo is a vary vital item.

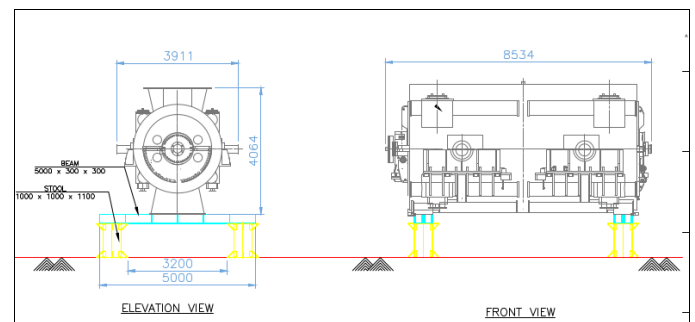


Fig. 11: Stooling detail of cargo [5]

It is showing the arrangement which is a pre-requisition for the placing and securing the overweight cargo in the barge. Where exact dimensions and distance of the beam and stool is to be prepared considering weight of the cargo and the saddle location.

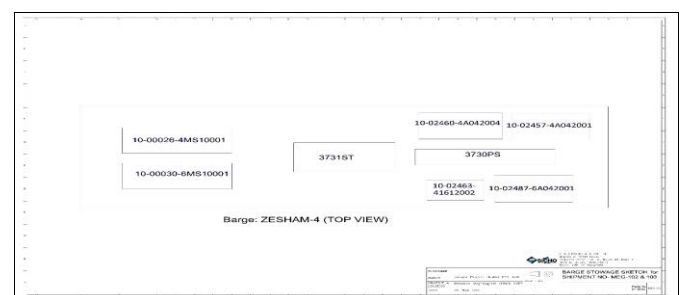


Fig. 12: Stowage plan of a flat barge [6]

Figure 12 shows the proposed location of the cargo in a particular barge.

It is also important to plan for the lashing of cargo while doing the road transportation. Here, we have to consider the road condition, travel distance on the road, maximum speed of the vehicle, and also upward/downward gradation.

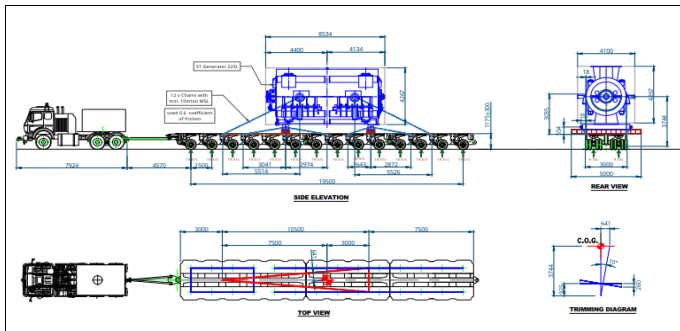





Fig. 13: Lashing detail of cargo in modular transporter [7]

The above Figure 13 shows the lashing detail of the cargo being secured in the modular. This is a system generated drawing which is done by the software named Heavy Goods software.

b) Essential equipment's, tools, and tackles

Item Name	Sample Picture of the Item	Short description
Crawler Crane		A crane is the most important item while doing operation in the LOLO jetty. While designing and constructing the jetty the dimension and self-weight of the crane along with the cargo weight and counterweight of the crane will be in consideration. Also, for all the lifting there must be a lifting and rigging plan for the safe operation.
Prime Mover		Prime mover is used to maneuver the heavy-duty modular transporter. The engine capacity of the prime mover will be considered while transporting a heavy load.
Heavy-Duty Modules		Heavy-duty modulares are adjustable in numbers, considering the Load and dimension of the cargo, number of axles in module.




SPMT (Self Propelled Modular Transporter)		SPMT are self-propelled and it can rotate for 3600, considering the dimensions and complexity of delivery location.
Lifting Gears		D-shackle, lifting belt, lifting wire sting, lifting hook, lifting beam, spreader beam is the commonly used lifting gears. Each of the lifting gears should be inspected before the lifting for safe lifting.
Steel Mats		Steel mats are used to divide the heavy load of the crane in a bigger area to match the load bearing capacity on the ground.

Table 1: Essential equipment's, tools, and tackles

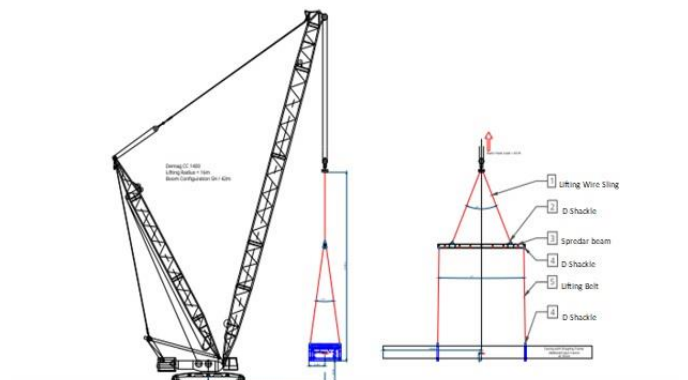


Fig. 14: Lifting drawing for a lifting of 45-ton ODC cargo [6]

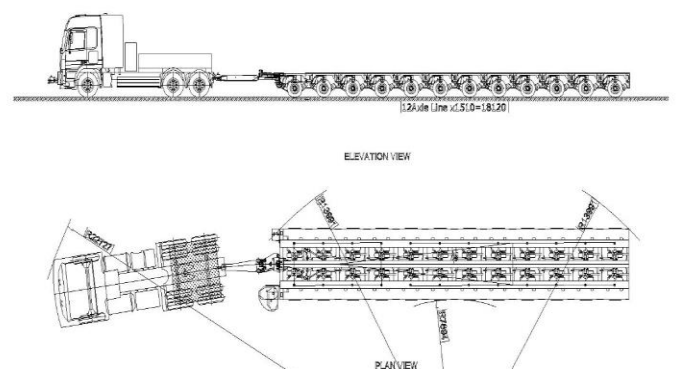


Fig. 15: Maneuvering detail of prime mover and heavy-duty modules [8]

RESULT AND DISCUSSION

In this research and observations point, authors already shared the aspects of project logistics, and this is the area in which domestic logistics companies should improve. Local companies are contributing a lot physically but systematically or technologically they need to improve themselves to win the project as the turnkey basis.

A. Modern Technology:

Most of the project logistics plan utilizes CAD drawings, mathematical calculation and visualization. However, the local companies are not skilled enough in this sort of tasks. They have difficulties presenting their plans to the client. Thus, the foreign companies are doing less physical work but more of planning jobs which includes the visualization, proofing, and mathematical calculations. Here the local companies are doing the main hard work at execution end. For example, in terms of cranes, most of the heavy-duty crane are owned and used by Bangladeshi company. However, EPC contactors are giving workorder to foreign companies because of their smart project handling skill and technical knowledge.

Scope of Work	Local Logistics Company	Foreign Logistics Company
Project Logistics Work Scheduling and Time Management	Maintain the same time schedule of their client.	Maintain properly planned and managed work schedule by Smartsheet, MS Project etc.
Cost Management	Control the cost but not in a properly documented way.	Manage, analyze and control the cost in a proper documented way. Use modern technology like ERP system.
Subcontractor Selection Criteria	Most of the time they don't use any subcontractor, they do it by themselves. A very few work is done by outsourcing. Most of the time, they don't follow any regulation in the selection process.	They complete the entire project by subcontractor. While selecting the subcontractor they follow both local and international regulation as per their compliance and supply chain policy.
Route Survey & Method Statement	Physical route survey is conducted by local companies, who have to overcome all sorts of obstacles, problems to provide solutions.	Rearranging as per the requirement of Client /EPC Contractor by using their expatriation.
Jetty Construction and Planning	Construction of the jetty are done by local companies as per the design and drawing provided by their client.	Entire planning, design and calculation is conducted by the foreign companies by using, survey report, CAD

		drawing, design software like STAAD.
Stowage Plan	They get help from the foreign experts to prepare the plan.	They prepare the stowage plan considering the vessel loading and unloading sequence along with the weight and dimension of the cargo.
Essential Equipment, Tools and Tackles	As there is no brand-new equipment market in Bangladesh, almost all the local companies are using the second-hand equipment. Most of this equipment is backdated and don't have enough required document. Also, the price of the new equipment is too high for local companies to afford and import. This is to mention that in recent years some equipment-based companies are working with good quality and well documented equipment.	Most of the foreign companies are using equipment of local companies and introducing them as their local business partner. Some companies import heavy equipment in a temporary basis for a short period of time.

Table 2: Scope of work by local and foreign logistics company

B. Technical Expertise Shortage

Local logistics companies are operating their logistics project without having an expert person in the subject matter. For example, they have 600-ton capacity crane, but an expert operator is not available. In this case, they are hiring people from outside the country and paying a lot of money. There are a lot of software and ERP system available for project logistics but only few local people know how to operate this.

‘The new trends have suggested that integration of automation and the use of artificial intelligence across organizational functions have to be emphasized. It will address the dynamic aspects of the current market where consumer expectations require businesses to ensure innovation and agility. Most importantly, the lack of knowledge in the field must be acknowledged and be addressed with data accumulation. Flexibility is also vital for all these to happen.’ [9]

VI. LIMITATIONS AND FUTURE RESEARCH

Some methodological limitations need to be mentioned. First, the sample size is relatively small, and the sample was drawn from a limited number of peoples. Second, all data were self-reported due to the nature of the study. Third, the list of areas is not an exhaustive for all possible areas of this sector. Last, respondents were solicited from multiple areas across Bangladesh. Moreover, data should have taken from more diversified source group and for longer period. All of these elements impact the logistics professionals learning experience and influence their perceptions. Readers should interpret the results with caution due to these limitations because results may have limited generalization in different settings and contexts.

VII. CONCLUSION

This paper encompasses the evolution of project logistics as the latest innovations in the field of management in terms of improving project management skills and services. In addition, this research represents the first large-scale empirical study that will clearly indicate the findings and improvement areas of project-based logistics services as well as the industry. The main findings and recommendations reveal the opportunities to improve the logistics performances and structure of leading domestic's conglomerates. The sector is growing drastically as country moving so faster for its infrastructure development as well as other industries. So, the grownup should have positive correlation with the benchmarks and better performance by following the modern technologies, subject knowledge, and expertise. To participate the infrastructure development on the county local project logistics companies must find a way to be more efficient and cost effective by developing the technical and professional skills.

This paper proposes the model of standard logistics companies inside the country which any logistics practitioners and domestic companies can follow. In addition, the study will guide logistics conglomerates, how and what to improve to grab the modern trend and sustainable business growth. From a managerial point of view, this research provides a novel approach to developing and assisting logistics management application in the domestic market, which represents an important service industry.

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