



# So that journeys don't turn into tragedies, man-made that is...

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PICTURES of overcrowded terminals and launches on the eve of Eid have featured in newspapers for several decades now. On quite the opposite edge of the emotional scale there have also been rather traumatic pictures following launch accidents, the casualty being always heavy. Terminals have been spared the anguish this far, but a mishap could be round the corner.

Journalists and other conscientious persons have appealed over the same period in photo caption stories, articles and by way of interview statements to both the authority and the public; but for quite the opposite reasons.

The authorities concerned - the Bangladesh Inland Water Transport Authority, the Bangladesh Inland Water Transport Corporation and the involved ministries - have been requested and pleaded with to take measures to mitigate the dangerous situation. But it has been no more than talking to a deaf wall built in the middle of the Padma.

Over the same period employees of government, semi-government and autonomous bodies have not been denied their salary, bonus, promotions, visits to foreign countries for training, learning, skill development, etc. Even in festivals during which fatal launch accidents occurred, the responsible (apparently not necessarily accountable) public servants have enjoyed their festival bonus. Resignation of a 'master' (as opposite of 'friend') from government office has this far been an unthinkable option for those responsible for deaths in such callous accidents, directly caused by gross negligence to duty.

There have also been appeals to the public, need it be said also cursorily from the relevant government authority in the form of newspaper announcements, but they have gone largely unheeded; the reasons being widespread illiteracy and pressing need over-ruling safety fears. There never have been enough launches to meet the demand at peak season. Moreover, most launch terminals are best suited to cater to only a tiny fraction of the passenger load and, that too, rather apologetically and without even a shred of concern for anybody's safety.

Architect Arman A Hossain Chowdhury has delved into an area -

the Sadarghat launch terminal - where no serious accident has as yet taken place, minor ones hardly get the deserved attention. The author is focussing on an area where improvements of safety standards can contribute towards preventing accidents. An orderly house is one of the primary premises required in safe environment design.

Apart from the inefficiency and dangers lurking in the terminal building, the launches themselves are prone to accidents. Any observant user of the Sadarghat terminal will find the existing risks rather alarming and can only look up to thank the Almighty for the close-call situations.

Guardrails are often missing from the side of the motor vessels, and at terminals. Some horizontal metal rails have lost anchor with the uprights because of age and rust. At some critical places floorboards have become slippery because of poor drainage. Embarking a launch and alighting from it along a twelve-inch plank can be testing for those without any experience in gymnastics. But who cares? 'No one has fallen yet' seem to be the solace of the big heads. Or have they? We will never know. Not all accidents are reported.

The authorities should consider undertaking a comprehensive plan to ensure personnel and passenger safety, taking into account past record, existing situation, safety standing in countries with similar economic backgrounds, and identify areas that require immediate attention and those that can fall under a long-term scheme.

Please do not wait for another launch accident or a tragedy at the terminal.

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BUET



Disaster just a few feet away

# Safety at Sadarghat launch terminal

ARMAN A HOSSAIN CHOWDHURY

LAUNCH terminals existing through out the country provide the infrastructure for an extensive network of waterways and links, which act as a major mode of transportation within the country. The safety measures taken for passengers and commuters, numbering

compared with similar mode of transportation in the western or the European countries where the water transportation is largely structured for tourism.

The study concerns with the safety of passengers beginning at the time of arrival at the terminal and ending at the embarkation of the passengers on the vessel, and vice versa.

A terminal should incorporate

way for passengers.

Sadarghat river terminal is the most important river port in Bangladesh. The current terminal building is located on the east of the river Buriganga. The river basin in the port area is about 16 kilometres long. The draft of the river in the port vicinity is about 3.66metres. But with continuous silt, adequate draft is a major concern for the berthing of mod-

ern river passenger and cargo vessels. The existing berthing and terminal facilities are inadequate for handling passengers and cargo traffic. In fact, the current terminal facilities are insufficient and not suitable for an important river port like Sadarghat.

Facilities available now at the two two-storied terminal buildings

road blockage. Sometimes traffic is at a standstill on the primary approach road. Moreover, vendors, hawkers, rickshaw pullers and passers-by congregate at the entrance and exit gate of the terminal and cause blockages of free movement.

**3. Need for segregation:** The conflicts of movements of different vehicle types are exacerbated by lack of segregation of vehicles from pedestrians, as well as arrival from departure. Also different functions should have dedicated zones, for instance ticket sales, waiting areas, food courts, comfort facilities and baggage handling. With passengers not segregated from moving vehicles, with vendors and parked rickshaws soliciting passengers at the entry to the terminal, the probability of accidents occurring is high.

**4. Lack of safety measures:**

- i. no safety railing for passengers on the pontoon
- ii. no causeway to the launch from the pontoon
- iii. launches dock at a peculiar 40-80 with the pontoon, instead of parallel to the dock.
- iv. hawkers and vendors outnumber passengers and restrict space of the pontoon.

**5. Embarkation/disembarkation:** Passengers/vendors are allowed to board and alight from the launches from front, side and back. The situation is particularly dangerous at the sides where adjacent launches

are constantly scraping each other.

**Measures to mitigate the present sufferings**

Based on surveys carried on passengers (of all ticket classes), vendors, officials, launch master/navigator/pilot along with the authors' observation some measures are recommended as probable solution to the existing safety problem.

**1. Separate movement of incoming and outgoing passengers:** The current situation is such that there are no specified entry or exits for passengers, as such there always seems to be commotion at peak hours.

**2. Embarkation on the launches without causeways:** Embarkation of passengers is at the front of launches and that too at a critical angle instead of lateral embarkation by causeways. Ideally the jetty should project into the water for the launches to dock laterally. The existing situation causes two problems:

- i. Entry to launches without guide rails of causeways is a great risk for passengers, especially children, ladies and the elderly.
- ii. To adjust the point of embarkation with the level of pontoon the launch has to move laterally in the rear, which at times is danger to smaller boats caught in between two larger launches.

**3. Separate docking yards for small and large boats:** Large and small water traffic should be segregated to reduce the chances of accidents. Currently there is a makeshift battered wooden jetty

used by small boats ferrying commuters across the river Buriganga. All other small boats use the pontoon meant for launches.

**4. Separate mooring facilities for parking of launches:** There should be a separate manmade lake isolated from the main river way where launches can be moored. This has been successfully done by the Jamuna Multipurpose Bridge Authority near the bridge site where a manmade lake serves as a service jetty.

**5. Fire hazard and safety within the terminal building:** There are ample entry and exit points within the building with ten feet wide apertures. Thus, in case of emergency there can be prompt exodus of passengers from the building. However the author has not seen a single safety sign, instructions or fire extinguisher within the building.

The matter of safety at launch terminals is of growing concern because of the increase in the countrywide annual number of passengers.

The chart below shows number of passengers at the Sadarghat Launch Terminal from 1992-2000.

2001	20,343,000
2002	21,306,000
2003	21,957,000

<b>Projected for the year 2015</b>	
Total yearly passenger	34,371,743
Average daily passenger	94,170
Average one-way traffic	48,085
Average peak traffic (3 hour)	40,000
Average peak traffic (1 hour)	20,000

2004	21,132,000
2005	23,012,000
2006	23,452,315
2007	24,469,884
2008	25,531,605
2009	26,639,393
2010	27,795,246
2011	29,000,125
2012	30,259,583
2013	31,572,512
2014	32,942,408
2015	34,371,743

**Demand forecast**

The above forecast analysis shows almost a two-fold increase in passenger traffic in the next 15 years. It is therefore necessary to consider and design the terminal for the increased traffic. Some key figures are given below:

Expected number of long distance launches is 200 vessels in each of the peak times, that is, during the early morning when the vessels arrive at the terminal and during the evening when they depart. The facility should be able to handle 60 vessels at a time.

Unless drastic and urgent measures are taken, the authorities may find the number of passengers overwhelming. Given the existing situation, the matter is bound to get worse. A serious accident is imminent.



The number of passengers has risen exponentially over the years but facilities at the terminal remain inadequate

nearly 95,000 daily, at these terminals are either non-existent or appalling.

A study on the safety condition of passengers at BIWTA Launch Terminal at Sadarghat was undertaken at the BUET. The study conducted within a brief and specific period of two months - November-December 2001 - has its demographic limitation. However, the provision (or absence) of safety measures and facilities for passengers, independent of the volume of passengers, are applicable to each individual passenger.

The study focuses on:  
a. Safety conditions for the passengers undertaken by the authority.  
b. Comparison between safety standards and existing safety measures  
c. Problems arising from the lack of good safety practice at the terminal.

The inland water transportation mode is the cheapest medium of transportation in the country. The poorest of the poor avail of this service. In a developing country like Bangladesh, the economics and infrastructure involved in such mode of transportation is unique to it and cannot to be

all the facility to impart comfort to the passengers. The functional distribution of services should be as simple as possible and there should be appropriate application of signs and instructions for the passengers in case of emergency.

The planning objectives for passenger safety at terminals

<b>Existing pontoon and facilities at BIWTA launch terminals</b>	
Size of launch	60-90 feet
Passenger carrying capacity	5075 person
Average speed of launches	25 km/h
Width of the passenger yard (dock)	32 feet
Length of the passenger yard	Depends on no. of terminating launches
Width of the jetty	30 feet
Length of the jetty	60 feet
Required water depth	minus 3.57m P.W.D
Current velocity (minimum)	1.3 m/s
Waves height (minimum)	0.4m (average)
Rate of steel corrosion at mooring	0.15 mm/year

should be as follows:

- a. Separation of motorised from non-motorised and pedestrian traffic.
- b. Creation of separate circulation for embarkation and disembarkation
- c. Ample provision of seating.
- d. Appropriate number and size of exits to avoid bottlenecks at entry/exits.
- e. Covered drop-off and cause-

ern river passenger and cargo vessels. The existing berthing and terminal facilities are inadequate for handling passengers and cargo traffic. In fact, the current terminal facilities are insufficient and not suitable for an important river port like Sadarghat.

Facilities available now at the two two-storied terminal buildings

for launch passengers include a waiting room for the passengers, ladies waiting room, waiting room for VIPs, a restaurant, a prayer room, one bank, one post office booth, toilets for gents and ladies etc.

In the river terminal, there are eight pontoons in a berthing space of 240 metres. In this berthing space, only 20 passenger launches can berth at a time. But

passengers try to leave Sadarghat terminal in the evening and reach their destination in the morning or during daytime. This is the peak time for out going passenger launches. Similarly, when the incoming launches reach the Sadarghat terminal in the early morning hours, another chaotic situation develops. It is virtually a daily problem.

The safety measures taken for the passengers by the Bangladesh Inland Water Authority at Sadarghat are negligible or non-existing. One can only imagine the situation prevailing in other lesser launch terminals across the country.

Safety of the passengers is severely compromised at the Sadarghat Terminal, as enumerated below:

**1. Lack of effective supervision:** Overall effective management control and enforcement of the terminal is weak. For any major and high capacity terminal to functional effectively and safely it is essential that an inspectorate exercise continuous supervision over all the operational aspects.

**2. Congestion on approach streets adjacent to the terminal:** Narrow approach way outside the terminal creates congestion and



The slumber should end unless the authorities want to wake up to a nightmare