

## **RAIL CONNECTIVITY IN BANGLADESH: PRESENT AND FUTURE**

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### **ABSTRACT**

Rail transport plays a major role in regional development and economic growth in the present world. Rail communication is considered as social obligatory service, cheapest, environment-friendly, comfortable and efficient mode of transport both in developed and developing countries. The history of Railway in Bangladesh is of 150 years. Bangladesh Railway has a rail network of 2877.10 kilometres connecting 44 districts. It carries almost 20% passengers among all transport sectors of Bangladesh. But Bangladesh Railway is suffering from various operating bottlenecks. Different gauge system at different regions, missing rail links, speed restriction, lack in international connectivity are the main problems hindering its improvement. Relevant information in this regard reveal that gauge rationalization, high speed rail, installation of new rail links, modernization of rail tracks are considered to be the key options to improve the poor rail connectivity in Bangladesh. In this context, the present government has taken many projects such as construction of double line track from Tongi to Bhairabazar, track doubling between Laksham and Chinki-Astana, construction of single line dual gauge track from Dohazari to Cox's Bazar, etc. Most of the projects are expected to be completed within the year 2022.

Keywords: Rail connectivity; rail service; gauge; development projects

### **INTRODUCTION**

Rail connectivity is necessary for regional development and economic growth in the present world. Railway is an efficient mode of transport as a train carries more than a four lane road and needs 50-70% less energy to transport a given number of passengers or a given tonnage of freight than by road (Yasin, 2010). The history of Railway in Bangladesh is of 150 years (Banglapedia, 2016). Railway operation in today's Bangladesh began on November 15 in 1862 when 53.11 kilometres of broad gauge line was opened for traffic between Darshona in Chuadanga and Jagotee in Kushtia (The New Nation, 2014). Bangladesh Railway (BR) has around 2877.10 kilometres of railway network which connects 44 Districts out of 65 districts. In the year 2014, Bangladesh Railway transported 65 million passengers and 2.52 million tons of freight (BR Information Book, 2014). This sector shares around 20% passengers among all transport sectors in Bangladesh (Rahaman and Rahaman, 2009). Intercity trains account for about 40% of Bangladesh Railway's passenger travel and for more than 75% of passenger revenue (Sector Assessment, Railway Rolling Stock Project, 2016). Railway is expected to play a major role in the communication sector of Bangladesh. The objective of the study is to determine the status of railway tracks and services from the connectivity viewpoint and it also recommends some improvement options.

### **EXISTING STATUS OF RAIL TRACKS IN BANGLADESH**

Bangladesh railway has 2877.10 kilometres of railway network connecting 44 districts out of 65 districts. Districts wise route kilometres are shown in Table 1.

Table 1: District wise Route Kilometres

Sl No	District	Kilometres	Sl No	District	Kilometres	Sl No	District	Kilometres
01	Bagerhat	40.53	16.	Joypurhat	54.00	31.	Gazipur	89.80
02.	Khulna	23.24	17.	Thakurgaon	43.75	32.	Dhaka	30.00
03.	Jessore	55.92	18.	Panchagarh	21.18	33.	Narayan- ganj	9.50
04.	Jhenaidaha	47.40	19.	Nilphamari	61.79	34.	Narsingdhi	38.97
05.	Chuadanga	46.71	20.	Kurigram	42.56	35.	Sunamganj	13.90
06.	Faridpur	76.81	21.	Dinajpur	167.96	36.	Brahmanbari a	74.64
07.	Gopalganj	24.13	22.	Lalmonirhat	113.15	37.	Habiganj	72.92
08.	Rajbari	88.72	23.	Rangpur	68.33	38.	Moulovi Bazar	125.33
09.	Kushtia	57.85	24.	Gaibandha	85.65	39.	Sylhet	50.64
10.	Serajganj	42.00	25.	Bogra	85.75	40.	Noakhali	29.40
11.	Pabna	59.00	26.	Tangail	95.20	41.	Chandpur	40.66
12.	ChapaiNawa bganj	64.01	27.	Jamalpur	109.55	42.	Comilla	106.40
13.	Rajshahi	63.00	28.	Netrokona	65.00	43.	Feni	51.73
14.	Natore	37.00	29.	Kishorganj	73.75	44.	Chittagong	178.45
15.	Naogaon	27.00	30.	Mymen-singh	128.33			

(Source: BR Information Book, 2014)

Barguna, Barisal, Bhola, Jhalokati, Patuakhali, Pirojpur, Bandarban, Cox's Bazar, Khagrachhari, Lakshmipur, Rangamati, Madaripur, Manikganj, Munshiganj, Shariatpur, Magura, Meherpur, Narail, Satkhira, Sherpur, Magura-these 21 districts have no rail connectivity.

The railway network was inherited from British Indian Railway with two-different gauges; metre gauge (MG) and broad gauge (BG). With the railway link over Bangabandhu Multipurpose Bridge, the east-west railway system has been interconnected using a dual gauge (DG) configuration. East Zone has 1,187 route kilometres of metre gauge and 35 route kilometres of dual gauge track only. West Zone has 535 route kilometres of MG, 659 route kilometres of BG and 375 route kilometres of DG track (BR Information Book, 2014). Only 8% of the route under BR has double track or part of this route length has double track (Rail Master Plan, 2013) (See Figure 1). Thus rationalization of gauge is one of the main problems for smooth connectivity in the country.

From 1970-2003, 13 branch lines were closed. The closed branch lines are: Faridpur-Pukuria, Vharamara-Riota, Lalmonirhat-Moghalhat, Pachuria-Faridpur, Kalukhali-Bhatiagara ghat, Rupsa East-Bagerhat, Feni-Belonia, Habiganj-Shaistaganj, Shaistaganj-Balla, Kulaura-Shahbazpur, Serajganj Bogra-Serajganj Ghat, Kurigram-Old Kurigram, Modukhali-Kumarkhali (BR Information Book, 2014). Most of them were closed considering them as economically loss projects (Yasin, 2010). In order to improve, the track condition, a feasibility study for improvement and rehabilitation of branch lines of Bangladesh Railway was undertaken in 2007. The study indicated that 1009 Km of tracks needed urgent rehabilitation and 1,647 Km of tracks were in good condition, which needed only proper routine maintenance (Rail Master Plan, 2013).

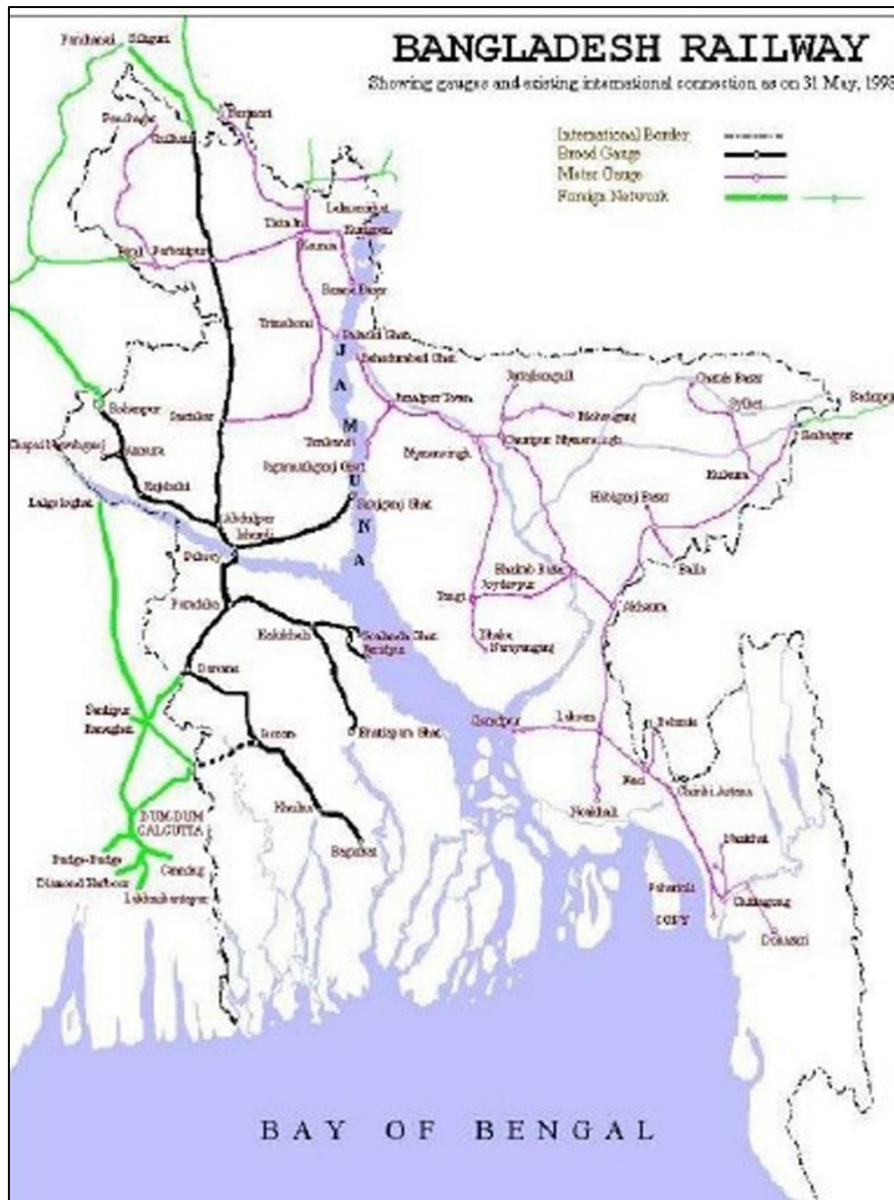


Fig.1: Rail network map of Bangladesh

In the year 2001-02 total route kilometres of BR was 2,765.99 Km and till 2013-14 total route kilometres was increased by 4% (BR Information Book, 2014). Figure 2 shows the increase of metre gauge, broad gauge and dual gauge rail tracks of BR over the year 2001-2014.

Rail transportation is very much attractive for long distance uninterrupted route network. But Bangladesh is a riverine country. There are about 546 numbers of major railway bridges, having lengths more than 40 metres and 3,104 numbers of minor bridges. Most of the railway bridges are old (Rail Master Plan, 2013). Besides during rainy season direct route links are often disrupted in many points (Ahmed, 2015).

Bangladesh Railway was not designed to serve the present geographic territory. Due to truncation from the main railway system, there are a number of missing links in different sections (Rahman, 2009). In Bangladesh Railway system, practical capacity is 75% of the theoretical capacity (Rail Master Plan, 2013). Speed restriction also creates drawback in rail communication. A staggering 47% of the network of Bangladesh Railway has speed restriction of less than 50 km/h (Rail Master Plan, 2013). Whereas China has the fastest train running at a speed of 300 km/h (Takagi, 2011) and neighborhood country India maintains train running with a speed of 160 km/h (Wikipedia, 2016).

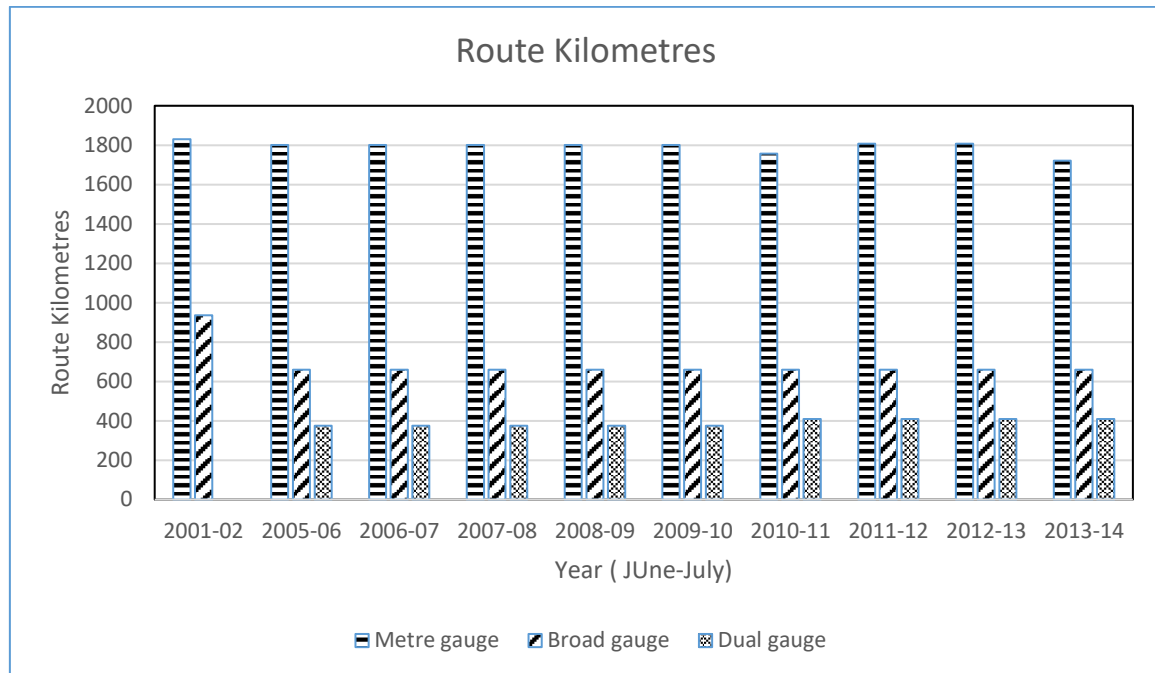


Fig. 2: Route Kilometres of rail track over the years 2001-2014

Bangladesh Railway has very few provisions for international communication. At present three broad gauge rail corridors through Benapole, Darsana and Rohanpur connect Bangladesh with India (Rail Master Plan, 2013).

### DEVELOPMENT PROJECTS

Connectivity by rail in Bangladesh should be made wider. All metre gauge lines should be converted into dual gauge line. In areas where the tracks are very busy, double lines should be introduced. Bangladesh and its neighboring countries could be benefited largely if connectivity with India, Nepal and Bhutan is developed (Rahmatullah, 2009). Bangladesh is joining her rail tracks with India and Trans Asian Railway. For the improvement of rail sector, various projects have been taken by the government such as:

- a) Construction of double line track from Tongi to Bhairabbazar.
- b) Track doubling between Laksham and Chinki-Astana.
- c) Construction of single line dual gauge track from Dohazari to Cox's Bazar.
- d) Construction of new rail line from Ishurdi to Dhalarchar.
- e) Construction of Pachuria-Faridpur-Bhanga sections of Bangladesh Railway.
- f) Rehabilitation of Kalukhali-Bhatiapara section.
- g) Construction of a new railway from Ishurdi to Dhalarchar via Pabna.
- h) Rehabilitation of Laksham-Chandpur section of Bangladesh Railway.
- i) Construction of 2nd Bhairab and 2nd Titas bridge with approach rail line.
- j) Construction of Kashiani-Gopalganj-Tungipara new rail line.
- k) Rehabilitation of Sholoshohor-Dohazari and Fateabad-Nazirhat section.
- l) Rehabilitation of Kulaura-Shahbazpur section.
- m) Construction of 3rd and 4th dual gauge line in Dhaka-Tongi and dual gauge double line in Dhaka-Joydevpur section.
- n) Construction dual gauge double rail line and conversion of existing rail line into dual gauge between Akhaura and Laksham.
- o) Construction of Khulna-Mongla port rail link.
- p) Construction of dual gauge line in Dhaka-Narayanganj section, etc. (BR, 2016).

Most of the projects are expected to be completed within the year 2022 (The Daily Star, 2016). The new 120 Km Dohazari-Cox's Bazar rail line would be part of Trans-Asian railway network (Asian Development Bank, 2016). The Padma Multipurpose Bridge is designed with a single freight rail

track(Wheeler et al., 2010). The total length of the future railway structure is 15.85 Km including those over main bridge (6.15 Km), railway viaducts (2.789 Km at Mawa side and 2.899 Km at Janjira side) and approach railway (2.45 Km at Mawa side and 1.7 Km at Janjira side) connecting two stations at bridge ends (BBA, 2010).

Upcoming projects of Bangladesh Railway are: construction of dual gauge double track from Joydebpur to Bangabandhu Bridge East, construction of dual gauge double track from Bangabandhu Bridge West to Ishurdi, rehabilitation of Shayestagonj-Balla section of BR, construction of rail line between Hathazari-Rangamati, construction of rail line from Barisal to Kuakata, construction of rail line from Jamalpur to tourist spots of Sherpur, etc. (Rail Master Plan, 2013).

The government of Bangladesh has taken an initiative to reduce the traffic congestions in Dhaka by proposing Metropolitan Railway Transit (MRT) systems and for the districts adjacent to Dhaka, commuter train services. Presently, the capital is connected to Jamalpur, Dewanganj, Brahmanbaria, Akhaura, Mymensingh, Joydebpur and Narayanganj by totally 44 up and down train services. According to Bangladesh Railway approximately 40,000passengers are carried per day to and from Dhaka by these commuter rail services. The existing commuter rail services connecting Dhaka with surrounding districts is progressively attracting more passengers. However it has become difficult to increase service frequency due to the decaying single railway tracks and other infrastructures (Wang et al., 2014).

### **CONCLUDING REMARKS**

For a developing country like Bangladesh, a high capacity, cost efficient and environment friendly transport system is required. That is why rail communication should be given priority in a large extent. The vision of Bangladesh Railway is to play an important and dominant role in an integrated transport system for the country by emphasizing its strengths. The country needs a rail communication system where every corner of the country can be connected by rail.

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