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DEPARTMENT OF
BIOTECHNOLOGY 2024-25

REPORT ON SOUTHERN RAILWAY OF
BENGALURU

INTRODUCTION ABOUT BENGALURU SOUTHERN RAILWAY STATION

Bangalore City Railway Station, officially Krantivira Sangolli Rayanna Bengaluru Station, commonly known as KSR Bengaluru Station, Bengaluru City Railway Station or Majestic Railway station is the main railway station serving the city of [Bangalore](#), [Karnataka](#), India. It is the busiest railway station in [South Western Railway zone](#) of [Indian Railways](#), and is the only station classified under [NSG1](#) category in the zone.

Date & time of visit: 29/11/2024 at 10am



HISTORY

The establishment of the British cantonment in 1809 made Bangalore a crucial military hub in South India. Soon enough, a need arose to establish more transportation links between the new civil and military outpost with the colonial administrative headquarters in Madras. In the 1840s, proposals for these railway lines were debated in the British Parliament, a move supported by traders and shipping companies. In Bangalore, Sir Mark Cubbon pushed for the development of the railway link during his tenure as the Commissioner of Mysore and Coorg. He proposed a railroad project connecting Mysore and Madras through Bangalore and Calicut but the plan was stalled. The line was initially meant for military purposes -for transporting soldiers, grains and ammunition but was later made open to the public. [Lewin Bentham Bowring](#) took over as the commissioner of Mysore and the land for the railway project was donated by the Mysore government. The train that chugged from Cantonment was called 'Bangalore Mail'. The year 1864 also saw other crucial developments in Bangalore. The railway link was a turning point in the history of the city as it encouraged immigration from the rest of the country. Trade witnessed a huge boost, and many potters from Madras also settled down in the Cantonment around the same time, leading to the establishment of Pottery Town.

UNDERSTANDING OF BIO-TOILETS

- The Indian railways had announced to introduction of bio-toilets in all its passenger coaches.
- A revolution in Indian railways
- The bio-toilets help to eliminate the dirt that falls on tracks. The idea to introduce it was to disinfect the human urine & feces. The initiative also started in the times of the coronavirus where maintaining proper hygiene was of utmost importance.
- Let us understand what a bio-toilet exactly is;
- Bio-toilets were invented by DRDO & the Indian railways. The anaerobic bacteria are kept in the bio-digester container.
- This converts human feces into gas & water. Thus, only methane gas & water stay back after decomposing the sewage.
- The gases get released into the air.
- The contaminated water is released on the track after it goes through the process of chlorination.
- There are many benefits of bio-toilets. Human feces were dumped on the railway tracks directly. This is used to spread dirt in the environment. It also damaged the rail tracks & its metals. Bio-toilets do not let it happen.
- Also earlier at least 15 litres of water used to be spent on the toilet flushing. The vacuum bio-toilets use only half a litre of water. The Indian stations become cleaner & also be less smelly.
- This in turn will help to stop the spread of diseases. There will be less mosquitoes & cockroaches. Manual laborers will also not have to do the dirty work.
- Bio-toilets have indeed changed the Indian railways face. This has given a lot scope to improve track maintenance. The waste is tested in the lab to

check. It takes around 4lakh rupees for installation. This is also part of Indian railway competition with the airlines.

- The United nations has predicted that the ground water level will be at a low level by 2025.

CONCLUSION

Railway Board has been monitoring the work of induction of bio-toilets in new and existing coaches through the Joint Working Group, which has members from various stakeholders and they have been taking feedback from field offices and deliberating on relevant issues. Different variants of bio-toilets were installed in seven trains on a trial basis during January 2011 to April 2012. However, before the test results in respect of these rakes could be analysed, JWG in their 4th meeting (November 2011) recommended large scale proliferation of 10,000 bio-toilets to be planned in the near future. IR issued instructions for large scale proliferation of bio-toilets in passenger coaches in November 2011. Though the JWG recommended standardization of the design of bio-toilets in November 2011, a variety of designs with respect to pan size, ball valve, opening/closing mechanism of valve, design of connector between pan and P trap etc. continue to be deliberated in various monitoring meetings and yet to be standardized. Provision of dustbin inside the toilet was recommended by JWG in April 2011, however the design of dustbin could be finalized only by November 2013. Railway Board set the target of turning out 100 per cent passenger coaches

RECOMANDATIONS

1. The issues relating to standardisation of design may be effectively addressed. This will also help in effective handling of maintenance issue of bio-toilets.
2. Issues of quality and quantity in supply of bio-toilets by private firms may be addressed urgently and the process streamlined so as to ensure achievement of ambitious targets of fitment of bio-toilets in the next few years.

3. The checks prescribed by Research, Design and Standards Organisation for visual inspection and testing of effluent discharge from the bio-toilets fitted may be exercised regularly, so as to monitor the performance of bio 46 Report toilets effectively. Checks prescribed for bio-toilets during periodical overhaul should be exercised and scheduled maintenance of bio-toilets may be carried out for their smooth operation in trains.

4. Augmentation of capacity for in-house production and procurement of bio-tanks from private firms for supply of adequate number of bio-tanks needs to be ensured to facilitate achievement of the target set for fitment of bio-toilets in all coaches.

5. Adequate facilities for bacteria generation needs to be installed urgently.

6. Zonal Railways may consider adequate provision of infrastructure such as fork lifts, storage facilities and evacuation machines etc. in Workshops and Coaching Depots on priority to ensure timely retrofitment and proper maintenance of bio-toilets.

7. Training to adequate number of non-Supervisory staff in the Workshops and Coaching Depots entrusted with the responsibility of upkeep and maintenance of bio-toilets and their retrofitment may be ensured.

8. Annual Maintenance and Operations Contracts may be finalised for all Coaching Depots.

9. Passenger Awareness Drives may be organised at regular intervals to create awareness about proper usage and working of the bio-toilets, by utilising electronic and print media and short films displays at major stations. Railways may consider highlighting elimination of manual scavenging through use of bio-toilets to make these drives more effective.





