gates (manned and unmanned). All interlocked level crossings gates have been provided with facility of audio-visual warning road users about approaching trains. Indian Railways is conducting trial in association with Space Applications Centre/ Indian Space Research Organisation (SAC/ISRO) for development of prototype system for provision of audio-visual warning at non-interlocked level crossing gates to warn road users about approaching trains.

**Punctuality rate of trains**

2685. SHRI MD. NADIMUL HAQUE: Will the Minister of RAILWAYS be pleased to state:

(a) whether the punctuality rate of Railways has declined considerably in the last three years;

(b) if so, the details as well as the reasons therefor, zone-wise;

(c) whether there has been a change in the criteria for determining the punctuality of trains, if so, the details thereof as well as the impact of it on the arrival and departure of trains; and

(d) the details of other steps taken by Government to improve the punctuality rate of trains without compromising on train safety?

THE MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI RAJEN GOHAIN): (a) and (b) The zone-wise punctuality performance over Indian Railways for the last three years and the current year (April to November, 2018) is as under:–

*Zone-wise punctuality (%) performance during the last three years and the current year (April to November, 2018)*

| Zonal Railway | 2015-16 | 2016-17 | 2017-18 | 2018-19 (up to Nov.) |
|---|---|---|---|---|
| Central | 91.79 | 93.19 | 89.92 | 86.22 |
| East Coast | 77.74 | 78.25 | 73.38 | 73.51 |
| East Central | 61.88 | 63.29 | 58.68 | 63.22 |
| Eastern | 92.32 | 91.5 | 82.05 | 71.71 |
| Konkan | 84.15 | 86.71 | 75.29 | 79.64 |
| North Central | 41.96 | 46.65 | 52.77 | 47.41 |
| North Eastern | 81.52 | 77.99 | 73.32 | 67.45 |
| Northeast Frontier | 87.04 | 89.25 | 80.55 | 75.71 |
| Northern | 76.89 | 73.15 | 64.97 | 57.21 |

| Zonal Railway | 2015-16 | 2016-17 | 2017-18 | 2018-19 (up to Nov.) |
|---|---|---|---|---|
| North Western | 93.65 | 94.31 | 87.95 | 85.95 |
| South Central | 91.61 | 96.31 | 90.67 | 80.22 |
| South East Central | 83.49 | 85.6 | 80.05 | 56.55 |
| South Eastern | 93.46 | 94.8 | 90.71 | 77.87 |
| Southern | 88.59 | 86.95 | 81.11 | 75.56 |
| South Western | 93.21 | 95.36 | 90.24 | 77.98 |
| West Central | 83.08 | 87.57 | 85.06 | 74.4 |
| Western | 94.94 | 95.89 | 91.41 | 91.87 |

However, trains do run late owing to various factors which include Railway and non-Railway factors such as assets failure, capacity constraints, damage to track due to breaches, accidents, cattle run over, electricity grid failure, miscreant activities, alarm chain pulling, bad weather including fog, natural calamities such as cyclonic storms, law and order problems, etc.

(c) Zonal Railways have rationalized the timings of some Mail/Express trains in order to improve punctuality performance of trains services.

(d) Various measures have been initiated to improve punctuality such as prioritization of preventive maintenance of assets to minimize asset failures, capacity enhancement projects by construction of additional loop lines at stations, doubling, construction of third line corridors, automatic signaling, construction of low height subway to replace level crossings, Road Under Bridges (RUB) and Road Over Bridges (ROB) etc. Besides, punctuality drives are launched from time to time and staff involved in train operations are sensitized. In addition, Zonal Railways have also been advised to have better coordination with Civil and Police authorities of States to deal with situations arising out of law and order problems.

Safety is accorded the highest priority by Indian Railways and all possible steps are undertaken on a continual basis to prevent accidents and to enhance safety. These include timely replacement of over-aged assets, adoption of suitable technologies for upgradation and maintenance of track, rolling stock, signaling and interlocking systems, safety drives, greater emphasis on training of officials and safety inspections at regular intervals to monitor and educate staff for observance of safe practices. Preventive and predictive maintenance of Railway assets is undertaken to ensure safe train operations. Safety devices/systems being used to prevent accidents include Electronic Interlocking,

Track Circuiting, provision of Block Proving Axle Counters (BPAC), Color Light LED signals, Train Protection Warning System (TPWS), Vigilance Control Device (VCD), Fog Pass Device (FPD), usage of 52/60 kg., 90 or higher Ultimate Tensile Strength (UTS) rails and pre-stressed Concrete Sleepers, use of Ultrasonic Flaw Detection of rails and welds at predefined periodicity to detect internal flaws in rails/welds. Electronic monitoring of track geometry is carried out to detect defects and plan maintenance. Steel Channel Sleepers on girder bridges are being used while carrying out primary track renewal. Further, it has been decided to lay Thick Web switches, Weldable Cast Maganese Steel crossings on identified routes. Progressive use of Linke Hofmann Busch (LHB) Coaches, use of Centre Buffer Couplers with Integral Coach Factory Coaches, etc. Railway tracks are replaced on age-cum-condition basis through track renewal works which is an ongoing process. Other measures include training of loco pilots and other safety category staff, improvement of their working conditions including proper rest and periodic medical examination etc. Besides, patrolling of tracks, footplate inspections and safety reviews at various levels, etc. are regularly conducted to continuously monitor and improve safety aspects of the Indian Railways.

**Expenditure from RRSK in Tamil Nadu**

2686. DR. SASIKALA PUSHPA RAMASWAMY: Will the Minister of RAILWAYS be pleased to state:

(a) whether Government has spent any amount from Rashtriya Rail Sanraksha Kosh (RRSK) for various works in the State of Tamil Nadu; and

(b) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI RAJEN GOHAIN): (a) and (b) The budgeting units of Indian Railways are Zonal/Production Units and budget allocations are made Railway zone-wise. Details of State-wise share/allocations are not maintained. However, since the State of Tamil Nadu is primarily served by Southern and South Western Railways, a statement indicating Planhead-wise Budget Outlays 2018-19 and expenditure to end of November, 2018 out of 'Rashtriya Rail Sanraksha Kosh' under Southern Railway and South Western Railway is as under:–