

## **1. RURAL CONNECTIVITY – ROADS, PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY) & BHARATMALA PARIYOJANA**

### **Overview**

- In 1941, the Road Development Plan classified roads into five categories namely, National Highways (NH), State Highways (SH), Major District Roads (MDR), Other District Roads (ODR) and Village Roads (VR). Out of them the OR and VR are being categorized as Rural Roads.
- In the third road development plan (1981-2001) new accessibility criteria for village road were introduced.
- The PM Gati Shakti programme has been launched recently to expedite the infrastructure and road development in India.
- The 63.71 lakh km (till 2019) of the road network in India is the second-highest in the world, and the estimated value of capital expenditure multiplier is 2.45 (Bose & Bhanumurthy, 2013).

### **Impact of Road Connectivity**

- There is a direct impact in the form of enhancement of spatial connectivity, which increase mobility of people and freight, and there is reduction of the cost of provision as well as the cost of use of road infrastructure.
- The development of highways tends to change the agricultural practice as well as pattern of settlement (demographic characteristics / density of population), in the proximity areas. The presence of highway induce farmer to change cropping pattern and to move to more cash crops.
- Better road connectivity in rural areas increases school attendance, particularly of girls.
- It also raises household income and creates more agricultural jobs in certain regions.
- In rural areas, the new land use pattern induced by the development of highway creates more provision for non-farm sector development and induces greater accessibility to job markets, health, and educational facilities, attract investment for the development of feeder roads, power distribution networks, telecommunication facilities and other modes of connectivity among others, leading to a greater access of the local people to markets and infrastructural facilities. The change also creates environment for development of industries, trading, and other non-farm services.
- This also improves the price of land. However, this also has caused incidence of land grabbing and filling up water land causing negative impact on environment.

### **Rural Road Growth: -**

- Rural roads are constructed via various schemes of multiple institutions viz. Panchayati Raj Institutions (PRIs), PMGSY and State Public Works Departments.
- For special category States viz. *Arunachal Pradesh, Assam, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura*, and *Uttarakhand* and identified areas under the *Desert Development Programme*, Schedule V tribal areas and selected tribal and backward districts as identified by the Ministry of Home Affairs (MHA) to connect eligible unconnected habitations with a population of 250 persons and above.
- For the most intensive *Integrated Action Plan (IAP) blocks as identified by the MHA, the unconnected habitations with a population of 100 and above* have been included under PMGSY. The scheme allows for the

upgradation of the existing roads in those districts where all the eligible habitations of the designated population size have been provided with all-weather road connectivity.

- The Union Cabinet had approved in December 2016 the implementation of a [Road Connectivity Project on Left-Wing Extremism Areas \(RCPLWEA\)](#) as a separate vertical. This initiative envisaged providing connectivity to aspirational districts expediting development in backward areas of the nation.

#### Use of Green Technology in PMGSY

- Locally available materials such as Terrazyme are used in road construction activities to promote cost-effective and fast construction with a longer service life and low maintenance cost.
- Some of the modern techniques and technologies used under PMGSY are -
  - Cold mix technology uses cold mix binders (where heating of bitumen is not required) resulting in saving on fuel and the environment.
  - Non-conventional materials like waste plastic, geo-textiles, fly-ash, iron copper slag, etc. are recycled in rural roads. Under PMGSY-III, the States and Union Territories (UTs) are to mandatorily construct roads *by using waste plastic within the minimum 15% of road length prescribed for new technologies.*

#### E-Maintenance Effort - PMGSY's Electronic Maintenance of Rural Roads (eMARG) –

As a Geographical Information System (GIS)-based enterprise e-Governance solution for road maintenance, eMARG focuses on safe and durable upkeep of PMGSY roads in all circumstances and involves performance-based evaluation of roads for ensuring appropriate maintenance-related payments.

#### Bharatmala Pariyojana:

- Initiated in 2017, this programme aims to develop 34,800 km of National Highway corridors, connecting 600+ districts in the nation.
- It is also expected to usher in technology driven highway development through deployment of automatic traffic surveys and satellite mapping and imagery to identify upgradation requirements of corridors.
- Bharatmala Pariyojana focuses on development of 24,800 km of dedicated expressways, access-controlled economic corridors, associated feeder routes, coastal and port connectivity, and border and international connectivity corridors. In addition, 10,000 km of ongoing National Highways Development Project (NHDP) balance road work is envisioned as part of the overall program.

#### Issues and Challenges - The quality performance of rural roads relies on the following:

- Discrepancies in District Rural Roads Plans (DRRPs) need to be removed and scientifically collected information on the population of habitations, connectivity status, road inventory with maps and a GIS empowered database should be used to connect unconnected but eligible habitations under PMGSY.
- Detailed project reports should be prepared by adopting laid-down procedures for monitoring, accountability, adherence to the quality norms and to check cases of undue advantage to road contractors (especially layers of informal sub-contracting at the cost of quality) and eliminate poor execution of such works.
- The States need to ensure adequate fund provisions and to ensure that their share is released as per the timelines and is not diverted to other schemes.

- There should also be a provision through which the States should commit to the maintenance of the road asset for five more years after the initial project tenure.
- As per the fund requirements and fund position for maintenance, the Finance Commission grant-in-aid can be linked with PMGSY.
- As per the given standards of the quality benchmarks, the government should map the deficiencies to fix responsibility and accountability on agencies responsible for quality control at the local, state, and national level.

## **2. RURAL HEALTH INFRASTRUCTURE**

### **Overview:**

The National Rural Health Mission (NRHM) was launched in 2005 to provide healthcare services to the rural population initially with focus on 18 states which had weak public health indicators and/or weak infrastructure. The Mission committed to increasing public expenditure on health from 0.9% of GDP to 2-3% of GDP.

The core strategies of NRHM are as follows:

- Capacity enhancement of PRIs to own, control and manage public health services.
- Developing a health plan for each village through the Village Health Committee of the Panchayat.
- Developing and implementing an inter-sectoral District Health Plan, including drinking water, sanitation and hygiene, and nutrition through the District Health Mission.
- Strengthening effective curative care at rural hospitals and ensuring measurability and accountability through Indian Public Health Standards (IPHS).
- Capacity development for promoting healthy lifestyles and adoption of preventive healthcare. Also, promoting collaboration with the non-profit sector, especially in underserved areas.

Facility	Population Norm		Mandate	Minimum Staffing
	Plain Area	Hilly/Tribal Area		
<b>Sub-Center (SC)</b>	5000	3000	Provides a peripheral contact between PHC and community	One female Health Worker (HW)/ANM and 1HW (male)
<b>Primary Health Center (PHC)</b>	30000	20000	Referral unit for 6SC with 4 to 6 beds	15 star staff members including a medical officer, staff nurse, ANM and health assistants.
<b>Community Health Center (CHC)</b>	120000	80000	A 30 bed hospital or referral unit	A total of 25 staff members including 4 MO (qualified/trained to work as surgeon/obstetrician/physicians and paediatrician), and other support staff.

### **Gaps in Rural Health Services :**

- The Annual Rural Health Statistics Report findings show infrastructural improvement with PHCs and CHCs housed in government buildings increasing to 89% and 96% respectively in 2020.
- In terms of manpower, the Report notes a shortfall of approximately 70% of health assistants (male and female), around 25% shortfall among doctors, and approximately 40% shortfall for Health Assistants (both male and female) at PHCs.

### Strengthening Rural Health Services

- (a) Connecting Communities through Technologies : Telehealth can be used to increase access to specialist consultations from an accessible PHC/CHC.
- ISRO's Village Resource Centre (VRC) is an initiative to provide a variety of services such as education, telemedicine, online-decision support, interactive farmers' advisory services, tele-fishery, e-governance services, weather services, and water management. VRCs serve as learning centers as well as provide connectivity to specialty hospitals from remote villages.
  - Similarly, the Indian Council for Medical Research's, Arogyasri, is another internet-based mobile telemedicine system that integrates multiple hospitals, mobile medical specialists, and rural mobile units/clinics.
- (b) Analyzing Data on Key Health Parameters to Undertake a Pulse Check on the Nation's Health : Information from the National Family Health Survey, Annual Health Survey, and Rural Health Statistics Report enables the Government of India to evaluate and course-correct policies related to population health, nutrition, and healthcare. NRHM's Management Information Systems (MIS) are intended to monitor the health indices of the population and the functioning of the healthcare system. Rigorous monitoring of fund utilization and engagement of local communities can also help.
- (c) Embedding Comprehensive Healthcare Management in Nursing and Medical Education to Efficiently Serve Rural Communities : This would lead to appropriate utilization of primary health facilities and reduce the burden at the secondary and tertiary levels of care by reducing unnecessary referrals. An example is the Mid-Level Providers who are a key part of the team at Health and Wellness Centres being operationalized under the Ayushman Bharat programme. Key initiatives like the National Health Mission, Pradhan Mantri Jan Arogya Yojana (PM-JAY), Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) can rectify the healthcare inequities.
- (d) Revitalizing the Trust of Communities in Primary Healthcare to Minimize the Burden on Secondary and Tertiary Healthcare Facilities : Evidence suggests that community participation including household visits by health staff, group meetings for education and support on health issues, as well as outreach workers providing health services in the community can go a long way in bolstering community engagement.
- (e) Providing Accommodation and a Supporting Ecosystem for Medical Doctors and Their Families : Housing townships for government employees of all the departments (health, education, water and sanitation, police, bank, road and transport, post, and telecom) housed at the block level with facilities like schools, playgrounds, community centers, supermarkets, etc. can provide a significant stimulus to the workforce otherwise discouraged to locate themselves in rural areas. The National Thermal Power Corporation townships (Lakhimpur Keri, Uttar Pradesh and Korba, Chhattisgarh) and Indian Oil's township (Barauni, Bihar and Noonmati, Guwhati) attract and retain talented individuals. The Shyama Prasad Mukherji Urban Mission (SPMRM) of the Ministry of Rural Development (MoRD) can provide the desired impact in this regard.
- (f) Focusing on Social Determinants of Health : In 2019, GoI launched PMGSY-III to consolidate 1,25,000 km through routes and major rural links connecting habitations to hospitals, among other essential facilities. Similarly, poverty, education and nutrition and economic opportunities related schemes play a crucial role directly and indirectly strengthening the linkages between people in rural areas and essential health services.

**Digital Health - The Ayushman Bharat Digital Mission (ABDM)** is a GoI funded digital distribution platform to establish and support the country's integrated digital health infrastructure, emphasizing rural areas. With digital highways, it will be possible to close the gap between different stakeholders in the healthcare ecosystem.

### **3. DIGITAL CONNECTIVITY IN RURAL INDIA**

According to the Network Readiness Index-2021, India has jumped to 67<sup>th</sup> rank in 2021 from 88 in 2020. Rural tele-density was 59% in December 2021. There are 104.75 urban internet subscribers for every 100 people in India, according to the Telecom Regulatory Authority of India (TRAI). Still, only 37.67 rural internet subscribers for every 100 people are found in the country.

#### **Mobile and Internet Services in Rural India**

The GoI through various schemes approved under Universal Service Obligation Fund (USOF), is providing mobile and internet services in rural areas and areas affected by Left Wing Extremism (LWE) –

- As per Ministry of Home Affairs (MHA), 90 districts falling under 11 States are affected by LWE and covered under the scheme.
- Scheme for mobile connectivity in 354 villages of uncovered border areas including Ladakh and Kargil Region, Himachal Pradesh, Uttarakhand, and other priority areas.
- **Comprehensive Telecom Development Plan (CTDP)** for mobile connectivity in the North-East Region (NER) consisting of following components, installation of mobile towers to provide mobile coverage in uncovered villages and the National Highways (NHs):
  - CTDP for NER States of Assam (except districts of Karbi Anglong and Dima Hasao), Manipur, Mizoram, Nagaland, Sikkim, and Tripura and the NHs.
  - Scheme for uncovered villages and along NHs in Meghalaya.
  - Scheme for uncovered villages of Arunachal Pradesh and 2 Districts of Assam, i.e. Karbi Anglong and Dima Hasao.
- Scheme for 4G mobile connectivity in uncovered villages of Aspirational Districts in four States - Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan.
- BharatNet project.
- A 2,313 km submarine Optical Fibre Cable (OFC) between Chennai and Andaman & Nicobar Islands was inaugurated in 2020 for providing connectivity to the latter.
- The government has approved a proposal for provision of submarine Optical Fiber Cable Connectivity by laying approximately 1,891 km of submarine cable between Kochi and Lakshadweep Islands, expected to be completed in 2023.
- Mobile connectivity to cover uncovered villages and along National Highway (NH 223) and Satellite bandwidth augmentation in Andaman & Nicobar Islands.
- Mobile connectivity has been enhanced in Lakshadweep and High capacity satellite-based connectivity for broadband services was launched in 2021.

#### **Digital Village Programme:**

It aims to make India's villages digitally literate and connected both digitally and economically to ensure that digital technology can be used to generate livelihoods and standardize the technology packages to be used in the future.

**Common Services Centre (CSCs):**

CSCs are one of the world's most extensive network of digital service providers. These ICT-enabled kiosks have a broad reach in rural areas up to the Gram Panchayats and block level to provide many government, private, and social services to people in these areas using broadband connections.

**BharatNet Project:** As part of Digital India initiative -

- It aims to provide inexpensive broadband/high speed internet connectivity to all the Gram Panchayats (GPs) - (approx. 2.5 lakh) in a phased manner by 2025.
- Special purpose vehicle (SPV) **Bharat Broadband Network Ltd. (BBNL)** was formed in February 2012, to lay out optical fibre network across 2.5 lakh village Panchayats across the country using USOF. BBNL has signed 50 agreements with Service Providers for providing broadband services across various States by utilizing BharatNet network. Further, two agreements have been signed with Service Providers for providing services on an All India basis (including Maharashtra and Odisha).
- The infrastructure created under this project is a national asset, accessible on a non-discriminatory basis to all telecom service providers, and can be utilized to provision broadband/internet services through Wi-Fi Hotspots, Fibre to the Home (FTTH) connections, leased lines, Dark Fibre, backhaul to mobile towers, etc. The revenue generated from this proliferation will bridge the rural-urban divide.
- **PPP Model** - In June 2021, the scope of BharatNet was extended up to all inhabited villages beyond GPs, along with approval for a revised strategy for implementation (creation, upgradation, operation, maintenance and utilization of network) of BharatNet through Public-Private Partnership (PPP) model in 16 States - Kerala, Karnataka, Uttar Pradesh, Madhya Pradesh, Rajasthan, Punjab, Himachal Pradesh, Haryana, West Bengal, Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland and Tripura. The total approved cost for BharatNet project is now Rs. 61,109 crore including Viability Gap Funding (VGF) for implementation of the Public Private partnership (PPP) model of BharatNet in 16 States.

BharatNet PPP Model will bring in the following consumer friendly advantages:

- Use of innovative technology by the Private Sector Providers for the consumers.
- High quality of service and service level to consumers.
- Faster deployment of network and quick connectivity to consumers.
- Competitive tariffs for services.
- Variety of services on high-speed broadband including Over the Top (OTT) services and multi-media services as part of packages offered to consumers, and
- Access to all online services.
- Union Cabinet has also given *in-principle approval to extend village connectivity including Optical Fiber connectivity under BharatNet to all the remaining States/UTs*. The project is affected mainly on account of widely dispersed GPs across remote corners of the country, covering difficult terrains (including hilly/ rocky), Right of Way (RoW) issues and also difficulty of access in LWE affected areas.

**Prime Minister's Wi-Fi Access Network Interface (PM-WANI):** Govt has also approved proliferation of Public Wi-Fi broadband Networks under the framework of PM-WANI. With Public Wi-Fi Broadband, the user experience and

Quality of Service will improve, and also lead to increased employment for small and micro entrepreneurs providing an additional source of income. This service will be especially useful in rural areas where Public Wi-Fi Hotspots are also being created under BharatNet.

#### Aspirational District Programme for livelihood, skill, and health – Success Stories

- Promoting local products through e-commerce portal, Utilization of green technologies for better connectivity, Recycling the waste of single-use plastic to build roads - Goalpara district (Assam)
- Providing skill development and community outreach through the YUVA BPO – Dantewada district (Chhattisgarh)
- Model Anganwadis for holistic child development (including mobile science laboratory, digital literacy workshops) - West Singhbhum district (Jharkhand).
- Engagement of community members to improve financial inclusion - Ranchi district (Jharkhand).

#### Leelavati Project –

- It aims to improve digital and financial literacy of at least 5 lakh women across six Indian states - Gujarat, Rajasthan, Uttar Pradesh, Bihar, Meghalaya, and Assam, and open up new livelihood/entrepreneurship/workforce participation opportunities for poor rural women.
- It is supported by the Japan Social Development Fund (JSDF) and managed by the World Bank.
- The Self-Employed Women’s Association (SEWA) under this project train women weavers in Gujarat’s Anand district and help them showcase their products online, create WhatsApp groups of customers, and enable digital payments for purchases.
- The training has helped other crafts persons in setting up their retail through Facebook and Instagram.
- Women have also become financially independent and carry out basic online transactions through Paytm, the BHIM App, Google pay, etc.
- In addition many women are feeling more empowered and self-confident to speak out at Panchayats or Gram Sabhas.

#### Engaging Local Institutions –

- There is a need to create a vibrant 4P model i.e. Public-Private-Panchayat Partnerships for inclusive and sustainable rural development.
- Panchayats with support from other stakeholders can play the dual role:
  - regular and continuous engagement with extension agencies for local planning to promote convergence of development activities at the local level
  - monitoring of services delivery by these extension agencies.

For instance, by installing a computer in the Panchayat office or any community centre, it can help connecting small and micro entrepreneurs, including SHGs with various government schemes and programmes and also help them to get access to support measures available on IT enabled portals or websites.

**Example – Gram Marg:** Gram Marg is an innovative model which aims to empower rural India digitally by bringing in Internet connectivity at affordable rates. In the villages in the Palghar district of Maharashtra, internet connectivity has been enabled by Gram Marg based on the aforementioned 4P model.

In this model, a village youth is nominated as the Village Level Entrepreneur (VLE) who undergoes skill training to maintain and operate the network in the village. The VLE is registered with the government's Common Service Centre (CSC) programme to ensure that citizen service centers operate in all Gram Panchayat offices in India. The role of each partner is clearly defined, including a revenue generation model enabling the internet to thrive and grow sustainably.

**Education :** To facilitate multi-mode access to education, a comprehensive programme called **PM eVIDYA** has been launched, which unites all initiatives connected to *digital*, *online*, and *on-air learning* to provide multi-mode access to education. Knowledge sharing infrastructure, access through television channels (SwayamPrabha TV Channels), and e-textbooks are some of the elements of this initiative.

**Agriculture :** For a unified national agricultural commodities market, the government has created the **National Agriculture Market (eNAM)**, a pan-India electronic trading site connecting the existing Agricultural Produce Market Committee (APMC) mandis.

**Others:** A cadre of Community Resource Persons such Bank Mitras (Bank Correspondents), *Tablet Didis* are providing multiple services at the doorstep of BPL families and keeping all financial activities of SHGs on MIS software respectively.

Tablet Didis also show short Films on their tablets to families to create awareness about various livelihood avenues, animal husbandry and on social ills such as child labour, witch hunting, and domestic violence.

### **Measures To Be Taken**

- The Gram Panchayat Development Plan (GPDP) can be effective in mainstreaming rural connectivity issues including funding internet connectivity in villages.
- These include the necessity of a comprehensive programme of public investment in (i) rural basic infrastructure, including improved road connection and 100% electrification; (ii) development of rural human capital, ensuring adequate opportunities for education, healthcare, and cultural development; and (iii) ensuring internet connection, providing rural populations equal access to digital platforms.
- The governments can ease regulatory requirements for alternative business models such as community networks, PPP models; create a more enabling environment for investment in underserved areas through incentives such as tax breaks, Corporate Social responsibility (CS) and crowd funding, etc.
- In addition, the government should accelerate its investments in expanding access to electricity, lowering Internet costs, providing education and digital literacy, and implementing regulatory changes to encourage new digital ventures and services.



**4. CONNECTIVITY, INFRASTRUCTURE AND PROJECTS : RAILWAYS**

**Overview:**

- It is projected that by 2050, India will account for 40% of the global share of rail activity and hence would need an investment of Rs. 50 lakh crore (by 2030) in the railway infrastructure development.
- Freight remains the major source of revenue accounting for around 65% of the total revenue generated in FY20, the remaining from passenger segment.
- The Economic Survey 2021-22 has stated that in the next 10 years, Indian Railways will see a massive capital expenditure under the National Rail Plan for capacity expansion of the rail network by 2030.

**Dedicated Freight Corridor (DFC) –**

- It is being developed along the Golden Quadrilateral (GQ) to link the four metropolitan cities of Delhi, Mumbai, Chennai, and Kolkata, and the two diagonals of the quadrilateral they form (Delhi-Chennai and Mumbai-Kolkata).
- Presently, the GQ accounts for about 16% of total route length but carries over 58% of its freight traffic and 52% of its passenger traffic. This causes excessive traffic congestion. To address these issues, the western and eastern DFCs are being developed to increase the rail share in the freight segment by providing customized logistics services, creating additional rail infrastructure to cater to high levels of transport demand, segregation of freight infrastructure for a focused approach on both the passenger and freight businesses, and introducing time tabled freight trains and guaranteed transit times thereby reducing the cost of transportation by speeding up freight train operations and by boosting productivity (ref tables below).
- The total estimated investment required for the project is Rs. 1,240.05 billion. The Eastern and Western DFC projects are being respectively funded by the World Bank and the Japan International Cooperation Agency.

**PM Gati Shakti and Railways** - PM Gati Shakti is driven by seven engines, namely, *Roads, Railways, Ports, Airports, Waterways, Mass Transport and Logistics Infrastructure* to spur economic growth and sustainable development.

It will help in developing world-class modern infrastructure and logistics and provide multimodal integrated and

seamless connectivity for movement of people, goods, and services. Gol plans to develop 100 PM Gati Shakti cargo terminals for multimodal logistics facilities over the next 3 years.

New Proposed DFCs	In Km	New Proposed High Speed Rail Corridors (For Passengers)	Length (km)
Eastern DFC ( <u>Dankuni</u> in West Bengal to <u>Khurja</u> in Uttar Pradesh & Ludhiana, <u>Khurja</u> and Dadri)	1875		
Western FC (Jawaharlal Nehru Port Trust in Mumbai to Dadri)	1504	Delhi-Agra-Varanasi	865
East Coast Corridor (Kharagpur To Vijayawada)	1115	Varanasi-Patna-Howrah	760
East-West Sub-Corridor ( <u>Bhusaval</u> to <u>Dakuni</u> & <u>Rajkharasawan</u> to Andal)	1673 + 195	Delhi-Jaipur-Ahmedabad	886
North-South Sub-Corridor (Vijayawada to <u>Itarsi</u> )	975	Delhi-Chandigarh-Amritsar	459

**AatmaNirbhar Bharat Initiative –**

- The imports in the procurement of railway equipment dropped from 5.6% in 2013-14 to 1.5% in 2020-21.
- Electric locomotive production in the country almost tripled in 2014 to 2020. Further, more than 97% of the equipment required for the production of electric locomotives is being sourced domestically.

- The Indian Railway has also started manufacturing **smart coaches**, which provide additional features like announcements, information on trains approaching different stations and air-conditioning and temperature control, etc.
- Under 'Atma Nirbhar Bharat', 2,000 km of rail network will be brought under '**Kavach**', an indigenously developed anti-collision system with world-class technology to prevent accidents. Kavach will help railways to achieve its goal of zero accidents.
- Indian Railway plans to manufacture train coaches and rakes including Vande Bharat Express trains, Tejas and Vistadome coaches. Vistadome coaches will be manufactured by the Integral Coach Factory (ICF) in Chennai and by the Rail Coach Factory (RCF) in Kapurthala. In the next 3 years, 400 new-generation and high energy efficient Vande Bharat' high speed trains will be introduced to add value to passenger riding experience.

**Kisan Rail**– It is an initiative to improve the freight business in general and provide a push to farmers in particular. Kisan Rail provides a 50% subsidy in the freight segment. This will help in maintaining the supply of essential (including agricultural) items.

**'One Station, One Product'** concept has been introduced to help the farmers, agri- entrepreneurs and local businesses and supply chains. Railways will develop new products and efficient logistics services for small farmers and MSMEs besides integrating Railway and Postal networks for seamless movement of parcels.

#### **Green Fuel Initiatives**

- Indian Railways is aiming to achieve 100% electrification of railway lines by December 2023, in collaboration with the Central Organization for Railway Electrification, Power Grid Corporation of India Limited, RITES Limited and the Indian Railway Construction Company, thus reducing the carbon emission level and improving transportation. Indian Railway will be first such organization in the world to have full electrified broad gauge railway network of such size.
- A provision has been made for the use of energy efficient LED lights and only star-rated energy efficient equipment in all railway installations, including railway stations, service buildings, residential quarters, and coaches.
- An environment- friendly technology called **Head-on Generation (HOG) system** has been adopted for supplying power to passenger coaches, eliminating the need for separate power cars in trains (attached to the train's front and back portions), cutting down energy costs significantly by reducing diesel fuel consumption. Power is now directly obtained from an overhead electric supply system.
- Indian Railway plans to source around 1,000 MW of solar power and 200 MW of wind power by 2021-22 and aims to generate 20 GW of renewable energy from solar and wind energy projects to meet its annual power requirement through renewable energy initiatives, including setting up solar plants and wind projects on unutilized railway land. *It is progressing towards becoming the world's largest green railway network by 2030, targeting net-zero carbon emission.*

**Station Infrastructure Redevelopment Programme** - The GoI has launched this programme to redevelop 400 railway stations across India under a PPP model. The aim is to develop self-sustainable railway stations with high standards of safety, comfort, user-friendly passenger amenities, value-added services, and efficiency by adopting

the best technological practices. *The programme is a major element of the Smart Cities Mission*, which aims to reshape urban development and stimulate economic activity by offering opportunities for real estate development, and development of multimodal transit hubs. The first true brownfield redevelopment projects **Baiyappanahalli** station, **Rani Kamalapati (Habibganj)** station and **Gandhinagar** station were inaugurated in 2021. These are the first air-conditioned railway terminals.

#### Digitization Initiative –

- Digital initiatives include Wi-Fi facility at railway stations, installation of internet-based video surveillance systems and IP-based CCTV surveillance cameras.
- For quick detection of any technical defects during the train journey, an application called '**Overhead Equipment (OHE) Inspection**' has been developed and rolled out on a pan-India basis with features such as GPS-based tracking of patrol men, real-time capturing of OHE defects, and provision for taking photographs.

#### Connecting the North-East and Mining Districts –

- The entire rail network of the NE states is being converted to broad gauge. Major cities in Assam, Tripura and Arunachal Pradesh are being connected by rail.
- Under '**Mission Hungry for Cargo**' initiative, the Railways is targeting a 45% modal share in freight transportation from the current 27%.
- The Railways is mapping the mining districts to connect them with the rail network to raise its share in freight transportation by making it cheap and convenient.

**National Rail Plan, Vision 2024** - The Indian Railways has to accelerate implementation of critical projects, such as multi-track congested routes, achieve 100% electrification, upgrade the speed to 130 kmph on all other golden quadrilateral-golden diagonal (GQ/GD) routes and eliminate all level crossings on the GQ/GD route.

## **5. RURAL YOUTH AND LIVELIHOOD**

**Overview:** The National Youth Policy (NYP) 2017 redefined youth as those in the 15-34 age group. With more than 50,000 start-ups, India has the third-largest start up ecosystem in the world.

**Skill India Mission** – The scheme was launched in 2015 for skill development of the youth of the country to make them more employable. Skill India offers courses across 40 sectors that are aligned to the standards recognized by the industry and the government under the National Skill Qualification Framework. More than one crore youth join the Skill India mission every year.

**Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** – PMKVY 3.0 was launched in January 2021 in nearly 600 districts making 300+ skill courses available to the youth, It aims to create skilled and certified workforce to improve employability.

[The Pradhan Mantri Kaushal Kendra \(PMKK\)](#) is an initiative of the Ministry of Skill Development and Entrepreneurship (MSDE). The objective of setting up the PMKKs is to impart Indian youth industry-relevant skill training.

The MSDE has taken several initiatives to mitigate the impact of COVID-19 pandemic on skill development training. These [include special programmes for training reverse migrants under PMKVY](#). This component has covered 116 districts of Assam, Bihar, Madhya Pradesh, Odisha, Rajasthan, and Uttar Pradesh identified under Garib Kalyan Rozgar Abhiyan (GKRA) of MoRD.

The MoRD is presently implementing three welfare schemes for employment generation. These schemes provide employment to people in rural areas including the youth belonging to SC/ST and economically weaker sections.

[Mahatma Gandhi National Rural Employment Guarantee Scheme \(MGNREGS\)](#) is a demand driven wage employment programme. It provides livelihood security to the households in rural areas of the country by providing at least 100 days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work.

The [Deen Dayal Upadhyaya Grameen Kaushalya Yojana \(DDU-GKY\)](#) is a *placement linked free-of-cost skill development programme for rural youth* under the National Rural Livelihoods Mission (NRLM).

- It was launched on September 25, 2014, on the birth anniversary of Pandit Deendayal Upadhyaya for youth aged 15-35 years. Its motto is to "*Transform rural poor youth into an economically independent and globally relevant workforce*".
- DDU-GKY guidelines call for earmarking 50% of the funds for SC/ST community and 15% for minorities. The scheme mandates that one-third of the trainees must be women. Women get an age relaxation up to 45 years.
- Under Azadi Ka Amrit Mahotsav, 'women centric mobilization camps and job fairs were organized under DDU-GKY across the country titled- Avsar Ki Azadi- through various State Rural Livelihood Missions (SRLMs), State Skills Missions (SSM) and Project Implementation Agencies (PIAs).

#### [Rural Self Employment and Training Institutes \(RSETI\) –](#)

- It is a skill development initiative of the MoRD in partnership with State Governments and sponsored by leading Banking Institutions under the NRLM. The programme is being implemented in every district. The banks are required to open at least 1 RSETI in their lead district to train to rural youth for self-employment/entrepreneurship ventures.
- RSETI programme runs with an approach of short-term training and long-term handholding of entrepreneurs. Rural poor people between the age group of 18-45 years are eligible to join the training.
- A candidate opting for RSETI can take bank credit and start his/her own micro-enterprise or seek regular jobs. The RSETIs enable poor youth in rural India diversify household income. This cost of training imparted by the RSETIs to the rural youth is reimbursed through the SRLMs.

- Under the RSETI scheme, 10 training courses are exclusively for women candidates and women form 66% of the total trained candidates. Fresh batches of women-centric courses have been launched in the event - Avsar Ki Azadi.

While MGNREGS provides direct employment, DDU-GKY and RSETI schemes promote employability through either wage or self-employment.

**'Captive Employer' Initiative** – On 10<sup>th</sup> March, 2022, the MoRD hosted a webinar promoting this initiative under the DDU-GKY. 'Captive Employer', is a first of its kind initiative to address the vision of a dynamic and demand-based skilling ecosystem for the requirements of industry partners assuring sustainable placements for rural poor youth. The initiative assures post-training placement of candidates for a minimum of six months with a minimum CTC (Cost to Company) of Rs. 10,000.

The Ministry of Agriculture and Farmers' Welfare (MA&FW) has operationalized skill training (min 200 hrs.) to impart training to rural youth and farmers. The **'Skill Training of Rural Youth (STRY) of 'Sub Mission on Agriculture Extension' (SMAE)** is being implemented since 2015-16. Short term skill training of seven days is imparted to rural youth/farmers on specific vocational areas in agriculture and allied areas through public and private/non-government training institutes including Krishi Vigyan Kendras and State Agricultural Universities.

#### **DigiSaksham**

- It is a digital skills programme launched by Ministry for Labour and Employment in a joint initiative with Microsoft, on September 30, 2021, to enhance employability of rural and semi-urban youth by imparting digital skills.
- It will equip more than 3lakh youth in technical skills in the first year and will enable jobseekers access Microsoft learning resources such as programming languages, data analytics, software development fundamentals and advanced digital productivity on the **National Career Service (NCS) Portal**.
- The initiative prioritizes disadvantaged job-seekers from semi-urban areas and those displaced or rendered jobless due to COVID-19.

**Khelo India Scheme** implemented by the Ministry of Youth Affairs and Sports promotes sports among entire population including rural youth. The scheme has a dedicated vertical for promotion of rural and indigenous/ tribal games by providing financial assistance to National Sports Federations/ NGOs, etc.

## **6. DBT GOVERNMENT SCHEMES**

### **Anganwadi Services Honorarium to Anganwadi Workers (AWW) and Anganwadi Helper (AWH):**

- AWWs at main Anganwadi Centres (AWCS), mini-AWCs and AWH currently receive an honorarium respectively of Rs.4,500, Rs.3,500 and Rs.2,250 per month.
- Improved working conditions have been made possible by revised joint guidelines issued by the Ministry of Women and Child Development (MWCD), the MoRD, and the Panchayati Raj for construction of 4 lakh AWC buildings across the country under MGNREGS in collaboration with Anganwadi Services (ICDS Scheme).
- Grants are available under Swachhta Action Plan for toilet/drinking water facilities.

**Supplementary Nutrition Programme:**

- It is part of the Integrated Child Development Services (ICDS) programme of MWCD, which is meant to help pregnant women, lactating mothers, and out-of-school adolescent girls who are not in school get the food they need (11-14 years).
- **Poshan Tracker** is a mobile application launched by MWCD which identifies stunting, wasting dynamically, and underweight prevalence among youngsters and tracks nutrition programme delivery down to the last mile.

**Scheme for Adolescent Girls (AGs):**

- Students who have dropped out of school are assisted in making a smooth transition back to formal schooling or bridge learning/skill training.
- They are informed/directed to existing public services e.g. PHCs and rural hospitals.
- Provide opportunities for self-development and empowerment for the AGS.
- Increase the nutritional and health status of the participants.

The scheme uses a rapid reporting system (RRS), role-based MIS that records information about the adolescent females who get benefits under the plan.

**National Creche Scheme:** It is being implemented as a centrally sponsored scheme through states/UTs by the MWCD to provide daycare facilities to children (between the ages of 6 months and 6 years) of working mothers. It provides –

- Sleeping quarters in day-care centres.
- For children under the age of three, early stimulation is recommended, whereas preschool education is recommended for children from three to six years.
- Nutrients in addition to the primary food source (to be locally sourced).
- Surveillance of growth.
- Examination of health and immunization.

**The Integrated Child Protection Scheme (ICPS):** It is a centrally financed programme to create a protective environment for vulnerable and disadvantaged children through collaborations between government and civil society organizations. The project would establish a child protection data management system for the formulation, implementation, and monitoring of effective intervention measures.

**Swadhar Greh:** Under the scheme, Swadhar Grehs will be established in every district with a capacity of 30 women to meet the primary needs of women in distress and without any social or economic support, such as housing, food, clothes, medical treatment, and care. More than one Swadhar Greh could be constructed in large cities and other districts with more than 40 lakh people and areas where there is a need for additional support for women. Swadhar Grehs have the following objectives:

- To help people rebuild emotional power, impaired by unpleasant experiences.
- To offer legal assistance and counselling for them to be able to take measures toward reintegrating into their families and communities.

- To help women regain their financial and mental stability.
- To serve as a support system sensitive and responsive to women in distress.
- To provide women with the opportunity to begin their lives anew with dignity.

**Ujjawala:** The scheme aims to achieve the following objectives :

- Prevent the trafficking of women and children for commercial sexual exploitation through social mobilization and participation of local communities, awareness generation programmes, generating public discourse through workshops/seminars and other similar events, as well as any other innovative activity.
- Rescue of victims and their placement in safe custody by making it easier to locate and rescue them from the location of their exploitation.
- To aid victims with both immediate and long-term rehabilitation services, it is necessary to address their basic needs, including shelter, food, clothing, medical treatment, counselling, legal support and guidance, and vocational training.
- Helping victims reintegrate with their families and society.
- Victims of cross-border crimes to be reunited with their families.

#### **Conclusion: Digitization for Gender Equality**

- The government should ensure that new technologies prioritize, safeguard, and promote women's human rights.
- Ethical frameworks for AI auditing, monitoring, and governance must prioritize gender equality.
- The government must address the gender data gap, both in number and quality while retaining privacy and data safety as top priorities.
- Universities, schools, and other educational institutions must equip women and girls for the digital revolution.
- Those who design, develop, and use AI in decision-making must be educated on women's rights-compliant technology.
- Women role models and mentors in STEM must be promoted by policymakers who must address exclusionary policies and terminology.
- For gender neutral access to well-paying jobs and professions, companies, particularly in technology sector, must adopt gender mainstreaming policies.
- Labour market rules that include paid maternity/parental leave and affordable childcare must be developed.