

Gist of KURUKSHETRA

May 2022



Rural Connectivity

PMGSY- Changing Nature
of India's Rural Roads

Connecting **Rural
Health Services**

BharatNet: Bringing
Broadband to Rural India

**Socio-economic Impacts
of National Highways**

Railway Connectivity

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02

Ranks in
Top 10

18

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36

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RANK 8

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RANK 13

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RANK 14

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RANK 17

Sarthak Agarwal



RANK 25

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RANK 26

Pulkit Singh



RANK 28

Divya Mishra



RANK 30

Divyanshu
Choudhary



RANK 31

Megha Swaroop



RANK 32

Rallapalli Jagat Sai



RANK 35

Aparna Ramesh



RANK 37

Narwade Vinayak



RANK 38

Varuna Agarwal



RANK 41

Aswathy Jiji



RANK 42

Pooja Gupta



RANK 46

Jubin Mohapatra



RANK 50

Abhishek Shukla

Incredible Results

CSE 2019

4 Ranks
in top 10

13 Ranks
in top 50

22 Ranks
in top 100



Rank 3
Pratibha Verma



Rank 6
Vishakha Yadav



Rank 8
Abhishek Saraf



Rank 10
Sanjita Mohapatra

CSE 2018

11 Ranks
in top 50

28 Ranks
in top 100

183 Ranks
in the final list



Rank 11
Pujya Priyadarshni



Rank 16
Dhodmise Trupti Ankush



Rank 21
Rahul Jain



Rank 24
Anuraj Jain



Rank 31
Mainak Ghosh

CSE 2017

5 Ranks
in top 50

34 Ranks
in top 100

236 Ranks
in the final list



Rank 3
Sachin Gupta



Rank 6
Koya Sree Harsha



Rank 8
Anubhav Singh



Rank 9
Soumya Sharma



Rank 10
Abhishek Surana

CSE 2016

8 Ranks
in top 50

18 Ranks
in top 100

215 Ranks
in the final list



Rank 2
Anmol Sher Singh Bedi



Rank 5
Abhilash Mishra



Rank 12
Tejaswi Rana



Rank 30
Prabhash Kumar



Rank 32
Avdhesh Meena

CSE 2015

5 Ranks
in top 50

14 Ranks
in top 100

162 Ranks
in the final list



Rank 20
Vipin Garg



Rank 24
Khumanthem Diana Devi



Rank 25
Chandra Mohan Garg



Rank 27
Pulkit Garg



Rank 47
Anshul Agarwal

CSE 2014

6 Ranks
in top 50

12 Ranks
in top 100

83 Ranks
overall selections



Rank 4
Vandana Rao



Rank 5
Suharsha Bhagat



Rank 16
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Gist of Kurukshetra May 2022 Issue: Rural Connectivity

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Chapter 1: PMGSY – Changing Nature of India's Rural Roads

Introduction:

- India has more than 6.5 lakh villages and around 69 percent of the total population amounting to around 89 crores live in rural areas.
- Providing sufficient and quality infrastructure is the key to achieving the objectives of equitable and inclusive growth with social justice improvement and improvement of the rural socio-economic conditions. Among infrastructure facilities, road infrastructure remains one of the most important.

Significance of rural road infrastructure:

- A strong rural road infrastructure ensures economic development through reduced cost of production and logistics, increased productivity, improved market access, economies of scale, enhanced employment, and improvement in public and private investments in rural farm and non-farm activities, improved marketing of farm and non-farm products and services. This will help improve the real income in the hands of the people.
- Apart from the economic aspects it also ensures social development. It helps ensure access to improved standards of community health and education and thus helps improve the quality of life of people.

Rural Road Growth:

- The total road length in the country has increased impressively from 3.99 lakh km in 1951 to 63.71 lakh km in 2019 at a compound annual growth rate of 4.2 percent. The share of the rural roads was the highest at 71.27 percent.

Pradhan Mantri Gram Sadak Yojana (PMGSY):

- The [Pradhan Mantri Gram Sadak Yojana \(PMGSY\)](#), as a part of the poverty reduction strategy of the Government of India, was implemented to provide connectivity by way of a single all-weather road to the eligible unconnected habitations.
- So far, 1,57,376 habitations have been covered under PMGSY and the remaining are proposed for completion by September 2022.

Salient aspects:

- The Union Cabinet in December 2016 approved the implementation of a Road Connectivity Project in the [Left-Wing Extremism](#) Area (RCPLWEA) as a separate vertical.
- PMGSY promotes the use of new and green technology in the process of rural road construction. Locally available materials are used in road construction activities to promote cost-effective and fast construction. Under PMGSY the States and Union Territories (UTS) are to mandatorily construct roads by using waste plastic, fly-ash, iron copper slag, etc. The use of cold mix and geotextiles are a prominent feature in road construction. Cold mix technology uses cold mix binders (where heating of bitumen is not required) resulting in savings on fuel and is also better for the environment.
- PMGSY'S Electronic Maintenance of Rural Roads (eMARG) focuses on safe and durable upkeep of PMGSY roads and involves performance-based evaluation of roads for provisioning and maintenance.

Issues and Challenges:

- Skewed regional development of rural roads.
- Inadequate funds for maintenance, up-gradation and rehabilitation of existing rural roads.
- Quality of roads not strictly adhering to the standards.

Chapter 2: Connecting Rural Health Services

Rural healthcare system:

- The rural healthcare system is structured in three tiers. It consists of Sub-centres, Primary Health Centres (PHCs) and Community Health Centres (CHCs) designed to deliver primary healthcare to the rural population.

Concerns:

- Vast resource gap which hinders the rural population from accessing quality healthcare.

- In terms of manpower, it was found that a large proportion of posts are vacant across all tiers of the health system.

Recommendations:

- The following steps would help in strengthening rural health services in India.
 - Connecting communities to health services through e-health services. The adoption of telemedicine provides an important opportunity to extend health services coverage to various parts of the country and connect citizens with quality as well as timely medical advice from doctors and specialists.
 - Embedding comprehensive healthcare management in nursing and medical education to efficiently serve rural communities. Also creating cadres of health professionals from the rural areas themselves who can be trained to deliver essential and basic health services is of the essence to ensure sufficient human resources in rural areas.
 - Providing accommodation and a supporting ecosystem for medical doctors and their families can act as an incentive to draw health professionals into rural areas.
 - Focusing on social determinants of health will also be critical for having an impact on the health of the rural population.

National Rural Health Mission:

- The [National Rural Health Mission \(NRHM\)](#) was launched in 2005 to provide healthcare services to the rural population.
- The core strategies of NRHM are as follows:
 - Increasing public expenditure on health from 0.9 percent of GDP to 2-3 percent of GDP.
 - Capacity enhancement of Panchayati Raj Institutions (PRIs) to own, control and manage public health services.
 - Developing a health plan for each village.
 - 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.

Chapter 3: BharatNet: Bringing Broadband to Rural India

Introduction:

- Internet connectivity in rural India has been increasing at a fast pace, with the rural internet user base growing around three times faster than its urban counterpart.
- India has been gradually expanding rural internet connectivity.

Initiatives being taken:

- The Government of India through various schemes is providing mobile and internet services in rural areas.
 - Scheme for providing 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).
 - Scheme for providing 4G mobile connectivity in 502 uncovered villages of Aspirational Districts in four States.
 - BharatNet project for providing broadband connectivity in all the Gram Panchayats (approx. 2.5 lakh) in the country. It aims to lay out optical fibre networks across 2.5 lakh village Panchayats across the country using USOF and provide its access to all telecom operators on a non-discriminatory basis. The scope of BharatNet has been extended up to all inhabited villages beyond GPs, along with approval for a revised strategy for implementation (creation, up-gradation, operation and maintenance and utilisation of network) of BharatNet through Public-Private Partnership (PPP) model. The timeline for providing connectivity to all villages including GPs in the country under BharatNet was initially August 2023, now extended to 2025.
 - Laying of submarine Optical Fibre Cable (OFC) between Chennai and Andaman & Nicobar Islands for providing connectivity to Andaman & Nicobar Islands.
 - Submarine Optical Fiber Cable Connectivity between Kochi and Lakshadweep Islands.
 - As part of the BharatNet project, the last mile connectivity is being provided through Wi-Fi or any other suitable broadband technology, including the provisioning of Wi-Fi Services in about 1.10 lakh GPs has been assigned to CSC e-Governance Services India Ltd.
 - Along with the BharatNet project, the government has approved the proposal to proliferate broadband through Public Wi-Fi Networks under the framework of the Prime Minister's Wi-Fi Access Network Interface ([PM-WANI](#)).

Significance:

- The enhanced internet connectivity will help bridge the rural-urban divide. It will help ensure access to reliable, quality, high-speed broadband to even the rural areas. This will enable better access to e-services offered by various central and state government agencies.

- It will also enable online education, telemedicine, skill development, e-commerce and other applications of broadband, all of which are essential for rural India to be part of the Digital India initiative.
- This is also expected to increase direct and indirect employment and income generation.

Know more about the [BharatNet programme](#) in the linked article.

Chapter 4: Socio-economic Impacts of National Highways

Introduction:

- The 63.71 lakh km (till 2019) of the road network in India is the second-highest in the world, and there has been a constant increase in the road network in India. The extent of road construction per day, as reported, has increased in 2020-21 to 36.5 km per day from 28 km per day in 2019-20, a rise by 30.4 percent.

Impact of National Highways:

- It has been found that in developing economies like India, a large public investment project on road infrastructure development plays a crucial role in reducing rural poverty and enhancing the socio-economic well-being of the people living in proximity of highways.

Economic impact:

- The development of highways tends to change agricultural practices. The presence of highways induces farmers to change cropping patterns and to move to more cash crops.
- It also contributes to the creation of non-farm sector development by being conducive to the development of industries. It also results in greater accessibility to job markets.
- The highways help in the enhancement of spatial connectivity and help increase the mobility of people and freight. It reduces the cost of logistics. It improves access to markets.
- In an economy, spending on infrastructure creates multiplier effect on creation of additional income. In the context of India, the estimated value of the capital expenditure multiplier is 2.45. This implies every one rupee spent as capital expenditure creates 2.45 rupees income in the economy.

Social impact:

- Better road connectivity in rural areas increases school attendance, particularly of girls.
- It also helps improve access to health and educational facilities.

Initiatives being taken:

- The [Pradhan Mantri Gati Shakti programme](#) has been launched to expedite the infrastructure and road development in India.
- Bharatmala Programme: The grand initiative of connecting a large part of India through road connectivity has been initiated in 2017 under the Bharatmala Pariyojana scheme. The programme aims to develop 34,800 km of National Highway corridors, connecting 600+ districts in the nation. Bharatmala Pariyojana focuses on the 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.
- The Union Budget 2022-2023 aims for the formulation of a Master Plan for expressways and the completion of 25,000 km of national highways in 2022-23.

Conclusion:

- The strategy of pushing forward economic growth through the development of physical infrastructure ensures inclusive as well as sustainable growth of a country.

Chapter 5: Railway Connectivity

Significance of railways in India:

- Railway infrastructure is considered an important contributing factor to the regional, social, and economic development of a country like India.
- It helps in the creation of employment, enhances connectivity, improves accessibility, increases production, facilitates trade and commerce and is overall considered an engine of progress and a great source of national integration.

Initiatives being taken:**Dedicated Freight Corridors:**

- The dedicated freight corridor (DFC) project is one of the most ambitious projects undertaken by Indian Railways. 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).

PM Gati Shakti and Railways:

- PM Gati Shakti is a transformative approach driven by seven engines, namely, Roads, Railways, Ports, Airports, Waterways, Mass Transport and Logistics Infrastructure.

Kisan Rail:

- Under this scheme, 157 trains are being operated on eight routes transporting more than 49,000 tonnes of commodities. Kisan Rail also provides a 50 percent subsidy in the freight segment.

Green Initiatives:

- Indian Railways is aiming to achieve 100 percent electrification of railway lines by December 2023.
- Indian Railways has adopted an environment-friendly technology called Head-on Generation (HOG) system for supplying power to passenger coaches, which eliminated the requirement for separate power cars in trains, thus cutting down energy costs significantly.
- Indian Railway has planned to source around 1,000 MW of solar power and 200 MW of wind power by 2021-22 across zonal railways and production units. It is progressing towards becoming the world's largest green railway network by 2030, with the target of becoming a net-zero carbon emitter including setting up solar plants and wind projects on unutilised railway land on a mega scale.

Other initiatives:

- The concept of 'One Station, One Product' 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 taking the lead in the integration of Postal and Railways networks to provide seamless solutions for the movement of parcels.
- The Government has announced plans to develop one hundred PM Gati Shakti cargo terminals for multimodal logistics facilities in the next three years.
- 2,000 km of the rail network will be brought under 'Kavach' which is an indigenously developed anti-collision system with world-class technology to prevent accidents. Kavach will help Railways to achieve its goal of zero accidents.
- In the next 3 years, Indian Railways will introduce 400 new-generation and high energy efficient 'Vande Bharat' high-speed trains with a focus to add value to the passenger riding experience.
- The Government of India has launched the station redevelopment programme, which aims to redevelop 400 railway stations across India for Rs. 1,000 billion under a public-private partnership (PPP) model development.

Chapter 6: Transforming Rural Connectivity

Impact of connectivity on livelihood opportunities:

- Improved rural connectivity (e.g. roads, phones, internet, and social media) greatly contributes to the creation of an enabling environment for local communities that stimulates entrepreneurship like starting or expanding the existing local businesses.
- Better rural connectivity with good quality infrastructural facilities will also open opportunities for rural tourism and homestay enterprises.
- Digital skills will help rural women become self-reliant.

Recommendations:

- The rural connectivity programme requires a robust service enterprise framework. There is the need to create a vibrant 4P model i.e. Public-Private-Panchayat Partnerships for inclusive and sustainable rural development through rural connectivity. The Gram Panchayat Development Plan (GPDP) could be an effective tool to mainstream rural connectivity issues.
- Availability of adequate funding, training and capacity development is necessary for a robust and inclusive rural connectivity programme. These include the necessity of a comprehensive programme of public investment.
- To promote connectivity in rural areas, governments can ease regulatory requirements for business models such as community networks, and PPP models. There is also the need to create a more enabling environment for investment in underserved areas through incentives such as tax breaks, Corporate Social responsibility (CSR) and crowdfunding, etc.

Chapter 7: Rural Youth – Shaping New India

Introduction:

- India enjoys a [demographic dividend](#) with youth constituting the majority of India's population.
- According to the report Youth in India 2017 (released by the Central Statistics Office), India is one of the youngest countries in the world.

Initiatives being taken to reap the demographic dividend:

- To tap the demographic dividend to optimum use, the government must ensure that the youth have appropriate education and skills and, in this direction, the government is implementing the following schemes.

- The [Skill India Mission](#) to empower the youth of the country with skill sets and make them more employable.
- The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aims to create a skilled and certified workforce that could contribute not only to India's growth but help it in becoming the global skills capital.
- The [Deen Dayal Upadhyaya Grameen Kaushalya Yojana](#) (DDU-GKY) is a placement linked skill development programme for rural youth under the National Rural Livelihoods Mission (NRLM). It aims to target youth, between the ages of 15-35 years.
- Another initiative of the Ministry of Rural Development under the National Rural Livelihoods Mission (NRLM) is skill development through Rural Self Employment and Training Institutes (RSETIs).
 - Rural Self Employment Training Institutes programme runs with an approach of short-term training and long-term handholding of entrepreneurs. The RSETIs have become established as pioneers in capturing the aspirations of the rural poor youth and turning them into profitable entrepreneurs by training them in the domain and entrepreneurial skills.
- Recognising the competitive nature of the job market and the expectations of employers, the government launched DigiSaksham – a digital skills programme. The DigiSaksham initiative will equip more than 3,00,000 youth with 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.

Chapter 8: Digital Technologies for Development

Introduction:

- The digital revolution has enormous potential to improve social and economic outcomes.

Digital Technologies and Women Empowerment:

- Educational Empowerment: Every country is taking advantage of new technologies to assist and increase training for women and girls in education. Information and Communication Technologies will be advantageous in promoting women's participation around the world.
- Health Empowerment: Women's health programmes at the global, regional, and national levels stand to benefit significantly from information and communications technologies. ICTs offer the ability to deliver locally adapted health information to women through community access points.

- Political Empowerment: Women and their organisations have strategically employed ICTs to advance their rights. Women's networks are leveraging new technology to amplify marginalised women's voices.
- Economic Empowerment: Job opportunities in the ICT sector are plentiful. Using ICTs women have received equal work prospects. Digitalisation enables women to work remotely from their homes while caring for their families. Digital financial services enable financial inclusion by bridging the gender divide in account ownership and increasing formal financial activities in terms of both volume and value of transactions.

Digital technologies and rural development:

- Information and communication technology (ICT) is one of the most critical components contributing to the economic growth and development of rural areas.
- Improved internet infrastructure in rural India can facilitate better agricultural, educational and healthcare services.
 - Agriculture: The government has established the National Agricultural Market (eNAM), a pan-India electronic trading site that connects the existing [Agricultural Produce Market Committee](#) (APMC) mandis
 - Education: To facilitate multi-mode access to education, a comprehensive programme called PM eVIDYA has been launched. Knowledge sharing infrastructure, access through television channels (SwayamPrabha TV Channels), and e-textbooks are some of the elements of this initiative
 - Health: The [Ayushman Bharat Digital Mission](#) (ABDM) is a digital platform aimed at mainstreaming e-health in India.

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