

About the B N Yugandhar Centre for Rural Studies

The B N Yugandhar Centre for Rural Studies (BNYCRS) is a Research Centre of Lal Bahadur Shastri National Academy of Administration, Mussoorie. It was set up in the year 1989 by the Ministry of Rural Development, Government of India, with a multifaceted agenda that included among others, the concurrent evaluation of the ever-unfolding ground realities pertaining to the implementation of the Land Reforms and Poverty Alleviation Programmes in India. Sensitizing of the officer trainees of the Indian Administrative Service in the process of evaluating of land reforms and poverty alleviation programmes by exposing them to the ground realities; setting up a forum for regular exchange of views on land reforms and poverty alleviation between academicians, administrators, activists and concerned citizens and creating awareness amongst the public about the various programmes initiated by the government of India through non-governmental organizations are also important objectives of the BNYCRS Centre for Rural Studies. A large number of books, reports related to land reforms, poverty alleviation programmes, rural socio-economic problems etc. published both externally and internally bear testimony to the excellent quality of the Centre.



Spatial-Temporal Analysis of Micro level findings from Village Surveys



BN Yugandhar Centre for Rural Studies
Lal Bahadur Shastri National Academy
of Administration, Mussoorie

CENTRE FOR RURAL STUDIES
LAL BAHADUR SHASTRI NATIONAL ACADEMY OF ADMINISTRATION,
MUSSOORIE - 248 179 (UTTARANCHAL)

**Spatial-Temporal Analysis of Micro level
findings from Village Surveys**



**B. N. Yugandhar Centre for Rural Studies
Lal Bahadur Shastri National Academy of Administration
Mussoorie**

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CONTENTS

Preface	i
Acknowledgement	xi
1. Chapter-1 Introduction	1
2. Chapter-2 Approach & Methodology of Spatial and Temporal Analysis	13
3. Chapter-3 Profiling Districts and Villages	21
4. Chapter-4 Changes in Rural Infrastructure and Basic Amenities	43
5. Chapter-5 Spatial and Temporal Analysis of Progress of Implementation of Major Rural Development Schemes	71
6. Chapter-6 Spatial and Temporal Analysis of Service Delivery in Rural Areas	99
7. Chapter-7 Tribal Development in India	115

PREFACE

Honourable Prime Minister of India Shri Narendra Modi mentioned the term "*Amrit Kaal*" (a road map for the country for the next 25 years) on the occasion of 75th Independence Day in the year 2021. "*Amrit Kaal*" aims to enhance the lives of the nationals of India, reduce the divide in development between villages and cities, lessen the government's interference in people's lives and embrace the latest technology. In tune with objectives of *Amrit Kaal* the country's economic policies are being shaped to help the youth, women, farmers, the Scheduled Castes, and the Schedules Tribes. In the *Amrit Kaal*, the lives of two-thirds of the Indian populace residing in rural India look remarkably better than a few years back, aided by the policy focus on basic amenities and efficient programme implementation.

Inclusive growth, especially in the context of rural areas, remains a significant challenge. Recognising this as a priority the government has thoroughly reworked the Ministry of Women & Child Development schemes and pushed forward a women-led development model during the *Amrit Kaal*, accordingly, three schemes, namely, *Mission Shakti*, *Mission Vatsalya*, *Saksham Anganwadi* and *Poshan 2.0*, were launched to deliver integrated benefits to women and children. In this regard it was proposed to upgrade two lakh *anganwadis* under the scheme equipped with adequate infrastructure and audio-visual aids and powered by clean energy and providing an improved setting for early child development.

During the last 7-8 years concerted attempts have been made to improve the standard of rural infrastructure and to provide basic amenities in rural areas. Strategically, remodelling of existing rural development schemes and commencement of new rural development schemes to supplement the integrated rural development have been accomplished. In addition to this the digital interventions have further enhanced the efficiency and effectiveness of various schemes. The inter-sectoral convergences of rural development schemes of different Ministries have resulted in optimisation of benefits at the household level as well as the community level.

The report has rightly mentioned that the outcome-oriented statistics concerning the quality of rural lives established through tangible progress in access to electricity, presence of improved drinking water sources, coverage under health insurance schemes, women empowerment, etc. Government is committed to achieve the targets set under Sustainable Development Goals (SDGs) and many of seventeen goals of SDGs concern the social well-being of individuals, resolving as follows: “We resolve, between now and 2030, to end poverty and hunger everywhere; to combat inequalities within and among countries; to build peaceful, just, and inclusive societies; to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources. We resolve also to create conditions for sustainable, inclusive and sustained

economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities.”

Standing on the brink of Financial Year 2023, various indicators of social development appear to have recouped. Focus on long-term goals of human development and “*Sabka Sath, Sabka Vikas*” have assumed salience. A record 13.5 crore people moved out of multidimensional poverty between 2015-16 and 2019-21 as per NITI Aayog’s Report ‘National Multidimensional Poverty Index: A Progress Review 2023’. The social sector expenditure outlay of the Centre and State Governments has increased steadily to stand at Rs. 21.3 lakh crores in FY23 (BE), with its share in total General Government expenditure standing at 26.6 percent, which is the considerable rise from FY 2014 (Rs. 4 lakh crores). Social services include education, sports, art, and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; the welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities, etc. The National Health Policy declared in the year 2017 envisages -“the attainment of the highest possible level of health and well-being for all at all ages, through a preventive and promotive healthcare orientation in all developmental policies, and universal access to good quality healthcare services without anyone having to face financial hardship as a consequence. This would be achieved through increasing access, improving quality, and lowering the cost of healthcare delivery.”

Government has focused on transforming welfare through technology - Aadhaar and JAM trinity have revolutionised the universe of state-citizen interaction, enabling targeted delivery of Direct Benefit Transfers (DBT) through 318 Central schemes and over 720 State DBT schemes, seamless portability of ration card across States through 'One Nation One Ration Card' and national database of unorganised workers 'e-Shram Portal' (Economic Survey 2022-23, Ministry of Finance, Govt. of India). This is also observed that Year-on-Year (YoY) decline in monthly demand for Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) work is emanating from normalisation of the rural economy due to strong agricultural growth and a swift bounce-back from COVID-19. One positive development as mentioned in the Economic survey - 2022-23 is that there has been a noticeable rise in Rural Female Labour Force Participation Rate (FLFPR) from 19.7 percent in 2018-19 to 27.7 percent in 2020-21.

The risk management and kind of coping mechanism required for effective and sustainable rural poverty-reduction strategy need to be focused. The rural people practice diverse occupations for their sustenance. Rural artisans, farmers and the rural labour force, etc. are exposed to different types of risks. In order to provide appropriate risk-management instruments and supporting the critically vulnerable, the government interventions like *Pradhan Mantri Fasal Bima Yojana*, *Pradhan Mantri Suraksha Bima Yojana*, *Pradhan Mantri Jan Arogya Yojana*, *Pradhan Mantri Jeevan Jyoti Yojana*,

life cover under *Pradhan Mantri Jan Dhan Yojana*, *Varishtha Pension Bima Yojana*, etc. in the last 7-8 years are commendable.

Based on the above perspectives, this report has attempted to examine into the changes in underlying factors those have impacted the quality of life in rural areas. The report on longitudinal analysis of interventions in rural areas has been based on the findings of Village visit reports prepared by Officer Trainees of all India and central services during their foundation course trainings. The report is prepared by analysing village level findings of 162 Villages of 17 Districts; those have been visited repeatedly at different point of time. The key areas of rural development dealt with in this report can help in providing further course corrections with respect to rural infrastructure, improving service delivery mechanism and to maximize benefits from flagship rural development schemes. The report is divided into seven chapters focusing on spatiotemporal changes in various aspects of rural development. More importantly, the report has incorporated examples of changes happened at the village level or micro level during 2014-2022 with respect to different dimensions of rural development.

The report has mentioned that natural resources are seeing a gradual change over the years. Water is one major natural resources facing significant degradation in terms of depletion of ground water. However there is improvement in terms of supply of piped drinking

water and irrigation facilities. The addition of renewable sources of energy, an alternate source in some villages is a significant step in line with the country's climate goals. As per the findings of the report that there has been continuous infrastructure development in Indian villages through targeted government schemes and local efforts. Financial services have improved in villages, with the presence of banks, post offices, and self-help groups. Post offices have become critical communication hubs, and government schemes like *Pradhan Mantri Jan Dhan Yojana* have fostered financial inclusion. The presence of banking correspondents has reduced the gap between villagers and banking services. As far as education is concerned the report has mentioned that initiatives like the Mid-Day Meal scheme and scholarships have positively impacted enrolment and retention, but quality and infrastructure remain areas of concern.

The chapter on rural infrastructure has focused on the changes in the status of basic amenities in rural areas such as road, electricity, drinking water, education and health related social infrastructure, mobile connectivity and access to financial institutions. One of the findings is that in many villages the main roads connecting the village to the District headquarters are all-weather and well-laid. The implementation of *Nal Se Jal* scheme is also contributing towards the generation of water assets in the village. This is also critical to the success and sustenance of *Swachh Bharat Mission* outcomes. All the villages surveyed

over the last seven years show 100% electricity coverage to the village households. Thus, the sample size only re-affirms the fact that Government ambitious target of 100% village electrification has been achieved on time. The report in line with National Health Policy -2017 has mentioned that almost all the villages have ASHA workers and it can be reasonably inferred that the mandate of 1 ASHA worker for every 1000 people is maintained throughout the country and there is near 100% presence of *Anganwadis* in the surveyed villages. This has been made possible due to effective implementation of ICDS scheme (Integrated Child Development Services) in convergence with MGNREGA. As far as availability of toilets in villages is concerned, the report stated that from an average of 50 – 60% coverage during 2014, it has increased to nearly 90-100% in the last 5 years (2018-2022) thus leading to increased health and sanitation outcomes. This is mainly due to the thrust given on toilet construction by the *Swachh Bharat Abhiyan* (SBA) and convergence of PMAY- R with SBA. One of the findings of the report is that there is an increasing penetration of financial institutions at the village level during the period from 2014 to 2022. Various government interventions have helped in this increased rural presence of banks and other financial entities. Mobile connection has a crucial role in mitigating the digital divide by facilitating economic empowerment, promoting information dissemination, and enhancing communication and providing access to digital banking and facilitating Direct Benefit Transfer. As

per the findings of the report, almost 100% villages covered are having mobile connectivity.

One of the chapters of this report has discussed the implementation of flagship schemes in rural areas and its impact on quality of life. Based on the report, the predominant schemes which villages found to be more aware about were MGNREGA, SBM, and PMAY-R. More importantly the report has mentioned that NRLM is more powerful than MNREGA in the upliftment of economic and social status of women. Another chapter has highlighted the quality of service delivery pertaining to health, education, local *Panchayat*, Public distribution system (PDS) and quality of service delivery by other institutions. In this chapter it is stated that a significant transformation in the roles and responsibilities of ASHA and *Anganwadi* workers have been observed in the recent years. Initially, *Anganwadi* centres primarily focused on providing food to women and children and raising awareness about immunization programs, now *Anganwadi* workers are collaborating with ASHA workers to enhance the nutritional well-being of expectant mothers and children. The high COVID vaccination rates, family planning counselling can be attributed to their tireless efforts of ASHA workers. They have also helped improve general awareness. For instance, Satto in Jaisalmer has low rates of anaemia as *bajra* is the staple diet and ASHA workers have helped educate people about it. In this chapter it is mentioned due to the persistent efforts of the government through schemes like *POSHAN Abhiyan*,

health campaigns, people's perception about health has changed from disease to overall wellbeing. As far as education is concerned the findings highlighted that there has been 100% enrolments across all the villages. Regarding use of technology in education sector, it is mention an Education Sector Scheme with the goal of "*Mera Mobile - Mera Vidyalaya*" and "Anywhere-Anytime" has introduced unique method of improving education among the rural people. As per the report, Post Offices have played an instrumental role in advancing the cause of financial inclusion, resulting in near-saturation of the scheme since 2014. Notably, a staggering 88% of surveyed villagers during the reference years possessed bank accounts. Although physical banks are situated at some distance from these villages, the presence of banking correspondents has substantially reduced the gap between villagers and banking services. From this report it has been emerged that level of service delivery has improved vastly as evident from increase in participation of beneficiaries across all sectors. The efficiency in service delivery has also risen due to technological interventions like Direct Benefit Transfer and Digital India. This has led to reduced leakages and lower exclusion and inclusion errors. The report has also included a chapter on tribal development in India as development in tribal areas is of a different nature as compared to the rural development in non-tribal areas.

The spatial and temporal report on rural development scenario of 162 villages has attempted to compile the

changes in the socio-economic profile of the villages and the information and facts are derived from the field level inputs given in these 162 Village Visit Reports. The analytical findings of this report are expected to help the policy makers, implementing partners and other stakeholders in many ways.

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ACKNOWLEDGEMENT

B. N. Yugandhar Centre for Rural Studies, a research centre of Lal Bahadur Shastri National Academy of Administration organises Field study Research Program (FSRP) for the Officer Trainees during their Foundation Course. The Officer Trainees gain insights into the diverse realities of rural life in different parts of the country during the FSRP. This includes understanding the community development, agricultural practices, local economies, education systems, healthcare facilities, and other aspects of rural living. During their visits to various villages, the trainees interact with the local communities, understand their lifestyles, traditions, and customs, and assess the impact of government policies and programs on rural development by using mixed research method. The village visit reports submitted by Officer Trainees as part of the Field Study Research Program are indeed invaluable sources of primary-level information and insights. These reports provide a comprehensive understanding of rural conditions, challenges, and opportunities, as well as the impact of government policies and programs on the ground. Efforts made by the Faculty of B. N. Yugandhar Centre for Rural Studies and some of the Officer Trainees of 98th Foundation course to prepare this report based on the village reports submitted by Officer Trainees of the Foundation course during 2014-2022 are commendable and highly valuable.

I express my heartfelt gratitude to the Centre Director of B. N. Yugandhar Centre for Rural Studies, Lal Bahadur

Shastri National Academy of Administration for his insightful guidance to publish the report on Spatial-Temporal Analysis of Micro level findings from Village Surveys. The objective of initiating such a comprehensive and in-depth research endeavour is to demonstrate a deep commitment to understanding the complexities of rural development at the grassroots level.

I am indeed thankful to the core team - Shri Snehasish Mishra (Assistant Professor), Dr. Varunendra V. Singh (Assistant Professor), Shri Inbarasan (Research Associate) and Officer Trainees of 98th Foundation, who have contributed to the report. The report would not have been possible without the efforts and supports from the employees of B. N. Yugandhar Centre for Rural Studies.

Absolutely, expressing gratitude to the Officer Trainees of various Foundation Courses is essential. Their active participation, dedication, and meticulous work in conducting village visits and compiling detailed reports have been instrumental in shaping the spatial-temporal Analysis of Rural Development - Micro Level Findings report. Their efforts in collecting primary data, interacting with local communities, and documenting valuable insights have provided the foundation upon which this significant research initiative stands.

Dr. Subhransu Tripathy
Sr. Research Officer

Chapter-1

Introduction

1.1 Overview of Rural Bharat

Bharat lives in villages, according to census data of 2011; 833 million people live in rural areas, which is 68.8% of total population. Rural *Bharat* comprises vast landscapes with farming communities, tribal people, picturesque villages and close-knit societies. Challenges like limited modernization of villages in terms of infusion, but there is also showcase of resilience, community bond and higher rates of growth and development.

Livelihoods of rural people mostly depends on Agriculture and allied sector, the population depend upon agriculture did not reduced with the downward trend of contribution from Agriculture and allied sector to the Gross Domestic Product (GDP) of the country that caused the crisis and pushed rural population to migrate towards urban areas. Thus, focusing on rural India in policy making is crucial for equitable development. It addresses challenges like disparities, urban migration and helps in harnessing the agricultural sector's potential.

Schemes/ programs like *Ayushman Bharat*, *Swachh Bharat Mission*, National Rural livelihood Mission, MGNREGA, *Samagra Shiksha*, Mid-Day Meal, *Pradham Mantri Gram Sadak Yojana*, *Har Ghar Nal Se*

Jal, etc. and decisive policies encompassing important aspects of rural development are improving rural infrastructure, healthcare, education and creating employment, promoting inclusive growth and elevating the quality of life for millions of Indians.

As Prime Minister has said that if we must achieve target of developed India by 2047, we must focus on rural economy and developed villages. Because majority of “*Bharat Gaon Me Basta Hai*”. The apex Ministry of Rural Development was allocated Rs. 80196 crores in 2014 that is doubled to Rs. 159964 crores in budget 2023-24, this shows government’s commitment and priority towards rural India.

1.2 Glimpse of Socio-economic Indicators over the years

Socioeconomic indicators are quantifiable measures and statistics used to access and analyse various aspects of a society’s economic and social well-being. They are invaluable source of data encompassing education, gender, poverty, housing, employment, other amenities and various economic aspects. Understanding these indicators is essential for formulating effective policies and fostering equitable socioeconomic growth. This study employs range of socio-economic indicators including education, health, food security, livelihood and poverty, unemployment, agricultural advancements, etc. in order to provide insights on rural development in the current scenario, the following indicators have been compiled from NSSO data base, MoSPI, Govt. of India.

Rural Development – Temporal Changes

- 92.5 percent of households in rural areas have the availability of all-weather roads within 2 km from the place of living, which was around 55 percent in the year 2014.
- 95.0 percent of the persons in the rural areas were having improved source of drinking water in the year 2020-21, whereas in the year -2018 (76th Round NSSO), it was around 94.5% and in the same year around 24.8 percent households in rural areas had access to piped drinking water into the dwelling.
- In the year 2020-21 around 56.3 percent of the persons in the rural areas had the facilities of improved source of drinking water located in their household premises against this, 53.4% of the persons in the rural areas were having access to improved drinking water facilities within the residential area in the year 2018.
- 78.7 percent of the households in the rural areas had reported that majority of household members had access to latrine, whereas during 2018 (76th Round NSSO), it was around 71.3 percent. In the year 2020-21, around 77.4 percent of the persons in the rural areas had access to hand washing facility with water and soap/ detergent within the premises.
- In the year 2020-21, 49.8 percent of households in the rural used clean fuel as primary source of energy for cooking. Here clean fuel refers to LPG, other natural gas, *gobar* gas, other biogas, electricity

(including generated by solar/ wind power generators) and solar cooker.

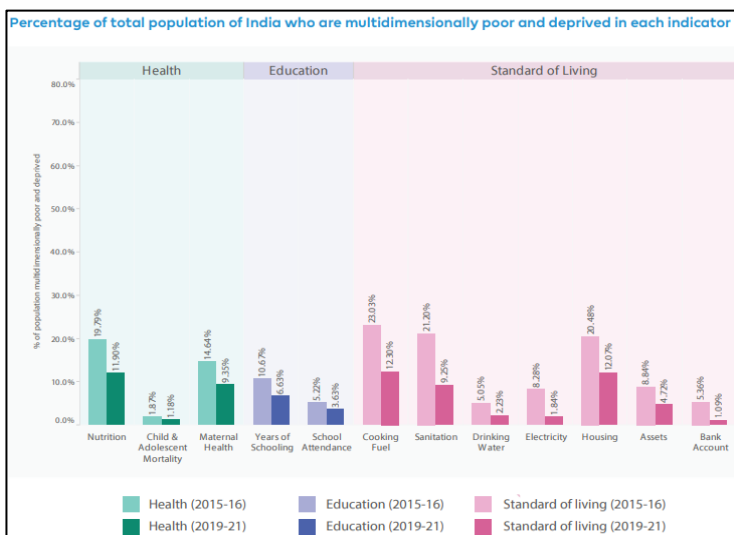
- In the year 2020-21 around 33.0 percent of persons in rural areas and about 39.4 percent of persons in urban areas of age 15-29 years were in formal and non-formal education and training, whereas around 30.2 percent of persons in rural areas and about 27.0 percent of persons in urban areas of age 15-24 years were not in education, employment or training (NEET).
- In the year 2020-21 around 67.8 percent of persons of age 18 years and above in rural were using mobile connection.
- As a progress towards financial inclusion, it can be mentioned that around 89.3 percent of persons of age 18 years and above in rural have an account individually or jointly in any bank/ other financial institution/ mobile money service provider by the year 2020-21.
- Decline in estimated number of cases of anemia has been observed, as per 75th NSSO Round (2017) there were 596200 cases of anemia in India and as compared to 880700 cases as per NSSO 71st Round (2014).

Health indicators of rural India have seen major improvement between 2014-2015 and 2019-2020 as per **National Family and Health Survey (NFHS) Report-5**. Institutional Births have increased from 79 percent to 89 percent and more than three-fourths (76.4%) children age 12-23 months were fully immunized, compared with 62 percent of **NFHS Report-4**.

According to State of Elementary Education in Rural India 2023 by Ministry of Education in the year 2001, only a little over 25% of all rural 18-year-olds were attending schools and the rest dropped out earlier, by the year 2016, the share of 18-year-olds in schools and colleges had gone up to 70%.

1.3 Multi- dimensional poverty/ Quality of Life in Rural India

A record 13.5 crores people moved out of multidimensional poverty between 2015-16 and 2019-21 as per NITI Aayog’s Report ‘National Multidimensional Poverty Index: A Progress Review 2023’. According to



the Report, India has registered a significant decline of 9.89 percentage points in number of India’s multidimensional poor from 24.85% in 2015-16 to

14.96% in 2019-2021. The rural areas witnessed the fastest decline in poverty from 32.59% to 19.28%. (NITI, 2023)

This report will discuss some of these dimensions in detail in following chapters, in the form of temporal study across 162 villages in India. Standing on the brink of FY23, various indicators of social development appear to have recouped. Focus on long-term goals of human development and “*Sabka Sath, Sabka Vikas*” have assumed salience. The social sector expenditure outlay of the Centre and State Governments has increased steadily to stand at Rs. 21.3 lakh crores in FY23 (BE), with its share in total General Government expenditure standing at 26.6 percent, which is the considerable rise from FY 2014 (Rs. 4 lakh crores).

1.4 Livelihood and Unemployment in Rural India

1.4.1 Livelihood

Livelihoods in rural India are not only a source of sustenance for millions but also a key driver of the country's overall economic growth. To provide an up-to-date perspective on rural livelihoods, this introduction draws insights from the Economic Survey of India for the year 2022-23, a valuable source of government data and analysis.

According to the Economic Survey 2022-23, rural India remains home to a substantial portion of the nation's population, with over 65% residing in rural areas. The

agricultural sector continues to be a cornerstone of rural livelihoods, employing nearly 43% of the country's workforce (NSSO data). Data from the survey reveals that it contributes around 15% to India's Gross Domestic Product (GDP). However, this sector is characterized by low productivity, small and fragmented landholdings and vulnerability to climate change. To address these challenges, the government has implemented schemes like *Pradhan Mantri Krishi Sinchayee Yojana* (PMKSY) to improve irrigation infrastructure and *Pradhan Mantri Fasal Bima Yojana* (PMFBY) for crop insurance. Beyond agriculture, rural India is home to various traditional occupations such as handicrafts, handlooms, and dairy farming.

1.4.2 Unemployment

Over the past decade, India has seen notable shifts in its unemployment status, marked by a combination of government policies, economic changes, and demographic factors. Data from both government sources (Labour Survey report and Economic Survey 2022-23) and the Centre for Monitoring Indian Economy (CMIE) highlighted these improvements.

Government initiatives like the **Make in India campaign** and **Skill India** have been pivotal in stimulating job creation. As a result, employment opportunities have expanded, particularly in the manufacturing and services sectors. The formalization of employment has been a key trend, with a growing

number of workers enjoying the benefits of formal labour contracts and social security.

Furthermore, government-driven programs like the **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** have played a crucial role in providing livelihood security to rural households. Significant growth has been observed in non-agricultural sectors, particularly information technology, manufacturing, and services, creating diverse employment opportunities.

Following table shows the decadal changes in unemployment rates in rural India.

Table 1: Unemployment in India

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Rural	3.4	3.5	5.3	5.0	3.9	3.3	3.2
Total	3.7	3.9	6.0	5.8	4.8	4.2	4.1

Source: Labour Bureau, Ministry of Labour & Employment (MoLE) Govt. of India, 2015-23

1.5 Achievements and Progress of major Rural Development/ Poverty Alleviation Programs/Schemes in India

Apart from other Ministries linked to development of rural areas, Ministry of Rural Development has enunciated various development schemes, to develop the rural areas in an integrated manner and to enhance the quality of life and infrastructure in the village.

Table 2: Status of Flagship Schemes

Sl. No.	Scheme	Description of the Scheme	Benefits of the Scheme
1	MGNR EGA	Mahatma Gandhi National Rural Employment Guarantee Act aims to guarantee the 'right to work'.	It has nearly 14.31 crores active persons and nearly 4.8 crores Households have been benefitted.
2	PMAY	<i>Pradhan Mantri Awas Yojana</i> is a credit-linked subsidy scheme to facilitate access to affordable housing.	It has sanctioned nearly 2,94,55,209 houses and 2,44,45,173 houses have been completed till now.
3	PMGSY	The <i>Pradhan Mantri Gram Sadak Yojana</i> provides good all-weather road connectivity to unconnected villages.	In this scheme, till the present year 2023-2024 nearly 7,43,542 km length has been successfully completed.
4	NSAP	The National Social Assistance Programme is a Centrally Sponsored Scheme that provides financial assistance to the elderly, widows.	The scheme has benefitted nearly 2,97,47,907 beneficiaries.
5	SAGY	Hon'ble Prime Minister Shri Narendra Modi launched <i>Saansad Adarsh Gram Yojana</i> (SAGY) on 11th October, 2014.	Under this scheme nearly 3,339 Gram Panchayats have been selected and nearly 2,03,328 Total number of projects have been completed.

In conclusion, development initiatives in India are crucial because they tackle a variety of economic, social, and environmental issues with the end objective of raising citizens' standard of living, fostering inclusive sustainable development especially in the rural areas.

1.6 Digital India and Rural Development

As estimated by McKinsey Global Institute in March 2019, India is one of the largest markets for digital consumers with 560 million internet subscribers, after China. So, there is more space and opportunity in rural areas towards digitalization. The digital India initiatives have led to implementation of rural development schemes in transparent and effective way. Basically, mobile and Aadhaar and its linkages with scheme benefits and *Jan-Dhan*, [generally coined as JAM (*Jan-Dhan*, Aadhaar and Mobile)] have significantly improved the effectiveness and efficiency of schemes and have facilitated seamless access to market and information. Some of the examples of digital interventions are mentioned in the following table.

Sl. No.	Scheme/ IT Intervention	Description of the Scheme
1	Direct Benefit Transfer	It has been visioned as an aid for simpler/ faster flow of information and funds to the beneficiaries and to reduce the fraud in the delivery system. There are 310 Schemes from 53 Ministries under DBT. Some

		important schemes are <i>Pradhan Mantri Fasal Bima Yojana</i> , National Food Security Mission and PM-KISAN.
2	Agrimarket app and Crop insurance mobile app	The mobile application has been developed with an aim to keep farmers abreast with the crop prices and discourage them to carry-out distress sale. Farmers can get information related to prices of crops in markets within 50km of their own device location using the AgriMarket Mobile App. Crop insurance mobile app can be used to calculate the insurance premium for notified crops.
3	<i>Pahal</i>	The <i>Pratyaksh Hanstantrit Labh</i> aims to reduce diversion and eliminate duplicate or bogus LPG connections. Under the scheme, LPG cylinders are sold at market rates and entitled consumers get the subsidy directly into their bank accounts.
4	<i>PM-Gramin Digital Saksharta Abhiyan</i>	PMGDISHA is a scheme to make six crores persons in rural areas, across States/ UTs, digitally literate, reaching to around 40% of rural households by covering one member from every eligible household by 31st

		March, 2019. It aims to bridge the digital divide.
5	<i>PM-Jan Dhan Yojana</i>	PMJDY is a National Mission on Financial Inclusion which envisages channelling all Government benefits (from Centre/ State/ Local Body) to the beneficiaries' accounts directly.
6	<i>Poshan Tracker</i>	<i>Poshan</i> Tracker that consists of Pregnant Women, Lactating Mothers, Children upto 6 years of age and Adolescent Girls as beneficiaries. <i>Anganwadi</i> Workers provide possible intervention to the beneficiaries and their progress is further monitored by Supervisors, CDPOs and DPOs.

This section of the study will dive in the details of many of the above parameters through a spatial and temporal study of 162 villages across India.

Chapter-2

Approach & Methodology of Spatial and Temporal Analysis

2.1 Spatial and Temporal Analysis

This spatial and temporal study with respect to rural development has analysed the primary level data and/ findings of 162 Field Study Research Program (FSRP) reports prepared by Officer Trainees during 2014 to 2022. The underlying methodology of this study is emerged from the methodology used in the FSRP for the collection of robust village level primary and secondary data and qualitative information with the help of Participatory research tools such as socio-economic mapping, Timeline, Ranking and scoring techniques and by using structured questionnaire, and by conducting semi-structured questionnaire based focus group discussions. Each of the village report is enriched by a time trend analysis of the village level development on the basis of use of PLA tool like Timeline.

The spatial and temporal study has considered district as an entity, which has been visited repeatedly for conducting FSRP. In total 17 districts have been repeatedly visited during the mentioned period. In total 162 villages have been covered under this FSRP during 2014-2022. The spatial-temporal study on village development is prepared by analysing data pertaining to various aspects such as availability of basic infrastructure in villages, Quality of service delivery and

changes in implementation of flagship developmental schemes in rural areas and their impact on quality of life and rural community development over across the years from 2014 to 2022.

2.2 Overview of Field Study & Research Program (Village Visit Program)

The Field Study & Research Program (earlier known as Village Visit Program) is a part of the Foundation Course, organised by Lal Bahadur Shastri National Academy of Administration (LBSNAA) for the freshly recruited Officers of All India and Central Government Services every year. The Field study & Research Program (FSRP)/ Village visit program has been conceptualised to orientate the Officer trainees on various aspects of Village Development. In the FSRP, the Officer trainees are formed into groups and conduct survey and research on a village and submit a village visit report containing analysis of data/ information gathered through various methodologies like PLA, Focus Group Discussion, Primary and secondary data pertaining to major socio-economic aspects of a Village. The Village visit reports submitted by the Officer Trainees are packed with factual based analytical findings. The Village Visit program involving research activities, later coined as FSRP has been conducted each year and a repository of quantitative and qualitative data/information is generated. This spatial and temporal study is based on data/ information collected across 8 years beginning from 2014 to 2022.

2.3 Rationale of the Spatial and Temporal Study on Rural Development

The FSRP/ village visit program, a unique training activity involves collection and analysis of quantitative and qualitative data by using mixed research method. Under this research oriented activity, the data have been collected through three methods such as Participatory survey, focus group discussion and structure questionnaire. Moreover, under the village visit program almost all aspects of village development are studied. This spatial and temporal analysis has been framed in the backdrop of availability of field level/ primary data pertaining to village development with greater insights into micro-developmental issues across various Years. Though village wise reports and data have been preserved across the years, hardly any attempt has been made to understand the changes that have been happening across the years from a spatial-temporal analysis perspective. The research with respect to changes in the course of development in the rural parts of the country has been done limitedly. The current spatial and temporal analysis pertaining to various important aspects of rural development has been conceived in the back drop of availability primary data collected through field study and research program conducted for Officer trainees of all India and Central services during their foundation course in the Lal Bahadur Shastri National Academy of Administration under the guidance of B. N. Yugandhar Centre for Rural studies.

Objectives of Spatial-Temporal Analysis of Village Reports

The main objective of the present spatial and temporal analysis is to analyze the changes pertaining to various rural development related indicators over a period of 7-8 years i.e. during 2014-2022. This study also aims to focus on the best practices adopted to implement rural development schemes effectively. Apart from this the report is dealing with the changes in quality of life and impact on rural livelihood due to governmental interventions in the rural areas.

2.4 Approach and Methodology

The spatial and temporal analysis of village level quantitative and qualitative information collected through structured questionnaire and participatory methods and presented in the Village visit reports submitted by the Officer Trainees of various foundation courses is the crux of this study. The approach of this study is to compile both qualitative and quantitative information mentioned in the village reports in a structured manner and capture the temporal changes in the rural development indicators.

Selection of Districts, Blocks and Villages

The sample frame of the spatial and temporal analysis of village development contains the villages of the districts and blocks, where the field study and research programs

were conducted across different years in a repeated manner. Moreover, focused analyses have been carried out with respect to the villages, which were surveyed more than once during the year 2014 and 2022.

Focus Areas of Spatial and Temporal Analysis

The spatial and temporal report on village development indicators has been divided into four broad areas such as (i) Profiling of Districts and Villages, (ii) Service Delivery (iii) Availability of basic amenities/ infrastructure in the villages and (iv) Implementation of rural development schemes. More focus has been given on status of availability of rural infrastructure and basic amenities, quality of services and implementation of flagship rural development schemes. Government interventions in the rural areas have been dynamic and subject to changes due to new challenges owing to changes in the socio-economic factors and inherent loop holes in the existing schemes. In this report attempt has been made to trace out the changes in implementation aspects of flagship rural development schemes and changes with respect to quality of service delivery and impact of such schemes on quality of life and benefits accrued to the rural public.

2.5 Coverage of Districts across Years/Foundation courses (FCs)

The Following table has mentioned the number of villages surveyed during different years and across different districts.

**Table 3: List of Repeated Districts under FSRP- A
Temporal Aspect**

District	Year of 1st Visit	No. of Villages	Year of 2nd visit	No. of Villages
1. Alirajpur	2019	07	2022	01
2. Amroha	2014	04	2015	04
3. Banswara	2019	07	2022	01
4. Bhojpur	2016 & 2017	08	2022	01
5. Bijnor	2014	05	2016	05
6. Champawat	2021	05	2022	01
7. Hamirpur	2014	06	2015	05
8. Hardoi	2014 & 2015	09	2016	05
9. Jaisalmer	2021	05	2022	01
10. Jaunpur	2014 & 2015	08	2016	05
11. Moradabad	2014	05	2015	07
12. Panipat	2014	07	2022	01
13. Shahjahanpur	2015& 2016	10	2022	01
14. Sirohi	2018	05	2022	01
15. Sitapur	2014	03	2015	06
16. Udham Singh Nagar	2014	06	2021	06
17. West Champaran (Bettiah)	2017	06	2021	05
Total		106		56

Source: Primary Survey

From the above table, it can be observed that 17 districts have been visited repeatedly at different point of time and as far as the villages are concerned in total 162 villages were surveyed in these districts. Out of 17 districts two districts such as Udham Singh Nagar and Panipat were visited first time in the year 2014 and revisited in the year 2021-22. Out of the 09 districts, which were visited in the year 2014, the revisits were conducted in the years 2015 and 2016. The remaining 08 districts were repeated under FSRP in a scattered manner. So, this temporal analysis at the micro level has focused on the villages as sample units irrespective of their distribution across the districts. Analysis of village level data has been done as per the distribution of villages across various years and mentioned in the table given below. This can be inferred from the table given below that year wise distribution of villages has been skewed. The highest number of villages was surveyed in the year 2014 and the least number of villages was surveyed in the year 2019.

Table 4: Year wise Frequency distribution of Districts and Villages

FC	Year	No. of Districts	No. of villages
89 th	2014	09	42
90 th	2015	07	35
91 st	2016	05	26
92 nd	2017	02	12
93 rd	2018	01	05
94 th	2019	02	14

96 th	2021	04	20
97 th	2022	08	08
Total		Repeated: 17 Districts	

Source: Primary Survey

Accordingly, while analysing the temporal changes in the level of development, these factors are considered by including the village reports of relevant years in this study. An intensive time-trend analysis has been carried out in this report involves 02 villages, which are visited repeatedly.

Chapter-3

Profiling Districts and Villages

3.1 The state and districts included in the spatial and temporal study

This study consolidates the data and village visit findings to study the transformation of these villages over the past decade by capturing the dynamic interplay of time and space. The villages chosen for this study are spread across the country with rich diversity across socio-cultural and economic dimensions.

Sitapur, UP, boasts a rich mythological heritage, while Panipat, Haryana, hums with industrial vigour through its refinery. In aspirational districts like Sirohi, Rajasthan, rural India aspires to play a significant role in *Amrit Kaal*. Jaunpur, UP, reaps nature's bounty with lush agricultural fields, but Bhojpur, Bihar, grapples with recurring floods. In the tranquil corners of Udham Singh Nagar, tribal villages are home to Tharu tribes, a testament to India's cultural richness.

Table 5: States and Districts Covered

District, State	Years Visited
Alirajpur, MP	2019, 2022
Amroha, UP	2014, 2015
Banswara, Rajasthan	2019, 2022
Bhojpur, Bihar	2016, 2017
Bijnor, UP	2016

Champawat, Uttarakhand	2021, 2022
Sirohi, Rajasthan	2018
Hamirpur, HP	2014, 2015
Hardoi, UP	2014, 2015, 2016
Jaisalmer, Rajasthan	2021, 2022
Jaunpur, UP	2014
Moradabad, UP	2014, 2015
Panipat, Haryana	2014
Shahjahanpur, UP	2015, 2016
Sitapur, UP	2014, 2015
Udham Singh Nagar, Uttarakhand	2014, 2021
West Champaran, Bihar	2017, 2021



Map 1: Districts included in the spatial and temporal study mentioned on the map of India¹. This report seeks to delve deep into the transformation of rural India through the lens of Officer Trainees of LBSNAA.

¹ Image generated using Google Maps

3.2 Location and Special Features of the Repeated District, Blocks and Villages

Officer Trainees visited a plethora of villages spread across various districts of the country in the past decade. Beginning with Uttarakhand, the district **Udham Singh Nagar** has been visited for field study in the years 2014 and 2021. The district is located in south-eastern part of the state and touches Nepal with a narrow border to the east. It is a part of *terai* landscape with many Himalayan rivers and rivulets criss-crossing the region. A special feature of the district is that it has a variety of communities who migrated in and settled here across different time periods, including Kashmiris, Punjabis during partition, Bengalis etc. This trend is also visible in the village '**Tharuti Saur**' visited by the trainees.

Moving to Uttar Pradesh, district Jaunpur was visited in the years 2014, 2015 and 2016. Located in south-eastern part of the state, Jaunpur is part of the Varanasi Division and is 228 km from state capital Lucknow. There is Tikra village, situated some 20 km away from sub-district headquarters Machhlishahr and about 50 km away from Jaunpur. It was found that the village has social composition of all prominent castes unlike Amara village which has majority of SC pop, declared Ambedkar village by the government. The district boasts of wonderful architecture, including ASI-protected monuments *Shahi Kila* and *Jama Masjid*, hence known as land of '*Shahi*' forts.

Hamirpur is the smallest district of Himachal Pradesh, visited in 2014 and 2015. Present in the south-western side of the state, Hamirpur is a part of *Shivalik* range. A special feature of the district is that over 60,000 persons from the region served in the army in 2014, with an equal number retired. Panini referred to the people of this area as great warriors and fighters, and today army is one of the largest employers for Hamirpuris, who form a large bulk of Dogra regiment, among others. This is true of village Bhamrol located in division Bhoranj and Ser Baloni, which is 21 km away from Hamirpur.

Sirohi district in Rajasthan is located in south-western portion on broken hills and rocky ranges of *Aravallis*. Sirohi means – ‘self-respect is most important even if head may be detached’. The district is the first in the production of fennel (seeds) and also got the first rank among the then 33 districts of Rajasthan in *Swachh Bharat Abhiyan* in 2014. **Village Pamera** in Reodar tehsil is notable, which is 34 km from the district headquarters and 469 km from Jaipur, the state capital.

Bhojpur district is situated in North Bihar, bordering Buxar district. It is the land of Veer Kunwar Singh, an important freedom fighter in the 1857 revolt. In the district’s Jagdishpur block is **village Dawan**. Dawan is 25 km Dawan- 25 km west of district headquarters and 79 km from Patna, the state capital.

Hence, one can appreciate the diversity in the nature of villages, based on topography, some located in Himalayan ranges to others in plateaus of the interiors of

India; based on how well or poorly they are connected with the main urban centres; and the unique specifications they have come to be associated with and the cultures they have developed over the years.

However, one must keep in mind that the **limitation** of the study, that is, it focuses on states located in northern and western part of India. States in southern and eastern part of the country do not find adequate space in the study. Nevertheless, the variety of villages and districts covered showcases that India is a tapestry of diversity woven with threads of culture, religion, language, and tradition, creating a vibrant and harmonious mosaic of unity.

3.3 Overview of Socio-economic changes in the Villages

Demography

Demography is a fundamental aspect of studying the dynamics of human settlements. This report presents a spatial and temporal study of demographic changes observed in various villages across spanning from 2014 to 2022.

Selection of Villages

Since the aim of the report was a spatial and temporal study of changes in villages, it was imperative that we have at least two sets of data for any particular village to make a meaningful comparison. This posed a significant

challenge in the selection of villages, because while data for many districts and even Blocks were readily available, it was not the case for the villages.

The selection methodology involved a systematic process which went as follows: Firstly, the study narrowed down on Districts that were visited on multiple occasions from 2014-2022. Secondly, the study narrowed down the repeated blocks within those districts in the said period. This led us to two villages; Dawan and Sakrja. Lastly, to expand the sample size, all the village reports available from 2021 and 2022 were read to narrow down villages that had compared data from the 2011 Census and had provided “As on Data” to reach an effective comparison. Thus, the following villages were narrowed down for the study.

Village: Dawan, Jagdishpur Block, Bhojpur, Bihar

- In 2014, Dawan had a diverse population comprising Muslims, Upper Caste Hindus, OBCs, *Dalits*, *Mahadalits*, and tribes, with a total population of 14,523.
- The village exhibited a relatively balanced gender ratio and a considerable presence of SC and ST populations.
- In 2022, the village saw a significant increase in the number of households (4,065) and OBC population (11,000).
- However, literacy rates remained low, especially among females (38.81%), and migration continued to be a challenge, indicating persistent socio-economic disparities.

Village: Sakrja, Sondwa Block, Alirajpur, Madhya Pradesh

- In 2011, the village had a small population of 1,085, consisting entirely of tribals (ST) with no SC or other categories.
- By 2016, the population had increased to 1,406, and residential clusters called "Faliyas" were identified, with the Patel Faliya being the most prosperous.
- Polygamy was prevalent, and the caste system was non-existent.
- In 2022, despite population growth, the village faced challenges in human development, with extremely low literacy rates and limited healthcare access.
- Seasonal migration to Gujarat for work was common, highlighting economic constraints.

Village: Ramgarh, Sam Block, Jaisalmer, Rajasthan

- In 2011, Ramgarh had a population of 8,222 with a sex ratio of 751. SC and ST populations were present.
- In 2022, the child sex ratio reached 964, which was better than state average of 928.
- SC and ST populations remained relatively constant.

Village: Nithora, Pindwara Block, Sirohi, Rajasthan

- In 2011, the village had a population of 5,120, with a sex ratio of 915.
- By 2022, the population had increased to 7,475, with the sex ratio dropping to 913.
- The percentage increase in population was approximately 45.99% from 2011 to 2022.

Village: Natthapur, Powayan Block, Shahjahanpur, Uttar Pradesh

- In 2011, the village had a population of 1,467, with a significant SC population and low literacy rates (59.54%).
- By 2022, the population increased to 1,687, with improved literacy rates (10% increase), particularly among males.
- So, population increased by approximately 15.02% from 2011 to 2022.

Village: Fagpur, Champawat, Uttarakhand

- In 2011, Fagpur had a population of 3,568, with a sex ratio of 857.
- By 2021, the population grew to 3,949, and the sex ratio improved to 950. The population grew by 10.67%.

Village: Goshani, Pati Block, Champawat, Uttarakhand

- The village had a consistent population of around 1,800 between 2011 and 2019.
- Notably, the number of males increased disproportionately, and the village remained dominated by the general category.

Village: Kakad, Champawat, Uttarakhand

- The village experienced a population increase from 969 in 2011 to 1,219 in 2022, an increase of approximately 25.80%
- Youth migration was a significant phenomenon, affecting 75% of the adult population.

The spatial and temporal study of these villages reveals various demographic changes over the years. Some

villages like Dawan, Sakrja, Ramgarh, Nithora, Natthapur, Fagpur, Kakad, experienced population growth, while Goshani faced stagnancy in population. Fagpur and Ramgarh saw improvement in sex ratio while Nithora showed a slight decline. The literacy rate improved in Natthapur. Migration remained a prevalent issue in several villages (Dawan, Sakrja and Kakad), reflecting the socio-economic challenges faced by these communities. Understanding these demographic changes is crucial for formulating targeted policies and interventions to address the evolving needs of these rural areas.

Description of Socio-economic Status

Between 2014 and 2022, **Panipat, Haryana**, experienced economic expansion and development during this period, with a strong focus on industrial diversification, agricultural modernization, infrastructure enhancement, and improvements in education and healthcare. In 2014, the city was renowned for its industrial activity, particularly in textiles and manufacturing, driving economic growth and employment. Agriculture also played a vital role, with crops like wheat, rice, sugarcane, and cotton contributing to the district's economy. Infrastructure development, including improved roads and basic amenities, laid the foundation for progress. Education and healthcare services were available, though further expansion and improvements were needed. By 2020, Panipat had continued its industrial growth, diversified its industrial base and created more job opportunities. Agriculture

remained significant, with efforts to modernize farming practices. Infrastructure development persisted, enhancing connectivity and urban amenities. Investments in education and literacy improvement continued to drive socio-economic development, and healthcare infrastructure likely improved to cater to the growing population.

Between 2014 and 2022, **Udham Singh Nagar district** in Uttarakhand experienced a dynamic socio-economic transformation. In 2014, agriculture was a significant contributor to the local economy. By 2022, the district continued its agricultural prominence while further diversifying its industrial sector. Infrastructure development has persisted, enhancing connectivity and urban facilities. Investments in education and healthcare continued to drive socio-economic development.

In 2014, **Shahjahanpur's** socio-economic landscape was characterized by heavy reliance on agriculture, featuring crops like wheat, rice, sugarcane, and pulses. Industrial development was limited, with a greater dependence on agriculture for economic sustenance. Infrastructure was in the process of improvement, focusing on roads and electricity supply. Education and healthcare services required attention and enhancement to raise literacy rates and healthcare accessibility. By 2020, agriculture continued as a vital economic pillar with efforts to modernize and diversify practices. Industrial growth initiatives have come up and roads and urban amenities have improved. Investments in education and healthcare

further contributed to Shahjahanpur's socio-economic development.

In 2014, **Bhojpur district** in Bihar primarily relied on agriculture as its economic backbone. Crops like paddy, wheat, maize, and pulses were pivotal to the local economy, with a substantial portion of the population engaged in farming. Education and literacy rates had lagged behind more developed regions, prompting ongoing efforts to enhance educational facilities. Similarly, healthcare infrastructure and access to medical services were limited, indicating a need for improvements in healthcare facilities. By 2022, agriculture remained central to Bhojpur's economy, but there were likely initiatives to modernize and diversify agricultural practices to boost crop yields and farmer incomes. Through local policies, there have been efforts to promote industrial growth and diversify the industrial base, potentially generating additional employment opportunities.

Table 6: Natural Resources

Village	Agriculture and Forestry	Energy	Water Supply
Dawan, Bhojpur, Bihar	The village has fertile soil. However, absence of canal irrigation increases dependence on ground water	Earlier there was no renewable energy project in the village. Now, the village has adopted	Earlier no clean drinking water was available most of the time but now due to <i>Nal se Jal</i> , drinking water

	and rain. Small sizes of the landholdings also creates a problem for drip irrigation.	solar energy for street lighting under the " <i>Mukhya Mantri Solar Street Light Yojana.</i> "	supply is better.
Sakrja, Alirajpur, MP	Agriculture is the primary livelihood, benefiting from the Narmada River's presence, which supports crop cultivation. But lack of irrigation facilities makes the agriculture monsoon dependent. The region also draws on its forest resources for timber and non-timber forest products. The local vegetation is predominantly of deciduous type, Teak being the most	Efforts have been made to promote renewable energy sources. Solar panels are installed.	Over the years, access to drinking water has improved but piped drinking water is not present in all the households.

	<p>dominant type. This is also evident through the usage of teak in earlier times for building the houses. However, this practice has now been stopped with the efforts of forest department and reaching of <i>PM Awas Yojana</i>.</p>		
Ramgarh, Jaisalmer, Rajasthan	<p>Due to the region's desert terrain, agricultural opportunities are scarce and mostly dependent on rainfall. The raising of camels in particular plays a key role in the local economy.</p>	<p>Tapping of wind and solar energy work is going on and will help in energy security.</p>	<p>Due to the dry conditions of the Thar Desert, careful water management is required, frequently using conventional techniques such as check dams and wells. Sand dunes in the region have also developed into a tourist draw. The long-term</p>

			viability of this desert village depends on the proper use of limited resources, water conservation, and tourism.
Nithora, Sirohi, Rajasthan	Subsistence level of agriculture. An area of 2380 acres is under cultivation and all the cultivable area is flood irrigated. Hence most of the crop production is rainfed and happens during rainy season. The average landholding size is 1.0 hectare (2.47 acre). The major crops are Castor, Maize, Gaur, Fennel, and Moong.	-	It is the biggest challenge. Water is hard, it contains fluoride thus not fit for drinking
Natthapur, Shahjahanpur,	The average landholding	-	Groundwater contamination

UP	size in the area is quite high being around 6-9 acre. Irrigation facilities are well developed. Instances of illegal farming are present on banks of Gomti river.		is a threat due to irresponsible farming practices.
Champawat, Uttarakhand	Agriculture is a significant source of livelihood, with the cultivation of crops such as rice, wheat, maize, and fruits like apples and plums.	Hydropower projects are underway in the district.	The district is crisscrossed by several rivers and streams, including the Kali River. These water bodies are vital for irrigation, drinking water, and support various aquatic species.

Source: Primary Survey

Natural resources in these regions are seeing a gradual change over the years. Water is one major natural resource facing significant degradation in terms of ground water (Dawan, Nathapur), water quality

(Champawat). However there is improvement in terms of supply of piped drinking water and irrigation facilities (Dawan, Sakrja). The addition of renewable sources of energy is a significant step in line with the country's climate goals. Understanding these issues and opportunities is important for overall development of the regions and also for fighting climate change.

3.4 Overview of Development in the Villages: 2014 - 2022

Infrastructure

The study assessed various key elements essential for rural development, highlighting changes and trends over time in the following section in brief, as another section has mentioned in details about this aspect.

All-Weather Roads: The presence of all-weather roads in villages has increased due to the *Pradhan Mantri Gram Sadak Yojana* and convergence of National Rural Employment Guarantee scheme.

Drinking Water: Availability of common water sources like Wells, Ponds, and tanks has increased, aided by the *Nal Se Jal* scheme, contributing to improved health and sanitation.

Electricity: All surveyed villages achieved 100% electricity coverage, emphasizing the need for reliable power supply.

ASHA Workers: Almost all villages have ASHA workers, maintaining the mandate of 1 ASHA worker for

every 1000 people, leading to improved health outcomes.

Anganwadis: Near 100% presence of *Anganwadis* was observed, thanks to effective implementation of the ICDS scheme.

Primary Health Centres: The presence of PHCs in villages has increased from 40-50% in 2014 to around 80% in 2022, indicating room for further improvement.

Schools: There is near 100% presence of primary schools, supporting education and the 'Right to Free and Compulsory Education Act.'

Community Toilets: Coverage has increased significantly due to the *Swachh Bharat Abhiyan*, promoting health and sanitation.

Mobile Connectivity: Nearly 100% mobile connectivity is available, with exceptions in hilly or shadow zone areas.

Panchayat Bhawan: Coverage has increased to nearly 100%, enhancing local governance and service delivery.

Access to Banking/ Financial Service: Financial institutions' rural presence has increased, contributing to financial inclusion.

At the village level, a comparative analysis of Dawan and Sakrja showed improvements in school infrastructure, agricultural market facilities, community latrines, centralized water supply, and street lighting due to government interventions.

In conclusion, the study revealed continuous infrastructure development in Indian villages through targeted government schemes and local efforts. While

there is an increasing trend in infrastructure achievement, further assessment of infrastructure usage is necessary to ensure sustainable outcomes, especially regarding electricity supply.

Service Delivery

The spatial and temporal study of service delivery in Indian villages from 2014 to 2022 reveals both challenges and improvements in various key areas.

In the realm of *Panchayati Raj Institutions* (PRIs), the persistent issues of proxy leadership, limited women's participation, low citizen awareness, and caste dominance continue to hinder their effectiveness. Proxy leadership, where male family members exert undue influence over elected female *Sarpanches*, remains a pervasive issue in about 70-80% of villages, undermining women's empowerment. Women's participation in PRIs remains minimal, and low citizen awareness hampers accountability and transparency. Caste dominance in PRIs calls for efforts to promote inclusivity.

Despite these challenges, there have been positive developments. The implementation of Direct Benefit Transfer (DBT) and the E-Mitra system in Rajasthan reduced corruption within PRIs, enhancing transparency. Constitutional reservations in the Amroha-Barsabad region in 2015 contributed to more inclusive representation within PRIs.

In the context of the Public Distribution System (PDS), the system functions efficiently in most villages, providing essential food grains and items at affordable prices. However, some issues include the sale of subsidized grains in open markets, challenges with Aadhaar-based identification, and instances of corruption.

Agricultural markets in villages exhibit significant variation, with some areas having well-developed markets and others lacking infrastructure and information technology. The implementation of e-nam has been suboptimal in many regions, with a lack of proper ICT-enabled systems.

The reports on educational institutions highlight challenges in primary schools, including shortages of teachers, inadequate infrastructure, and dropouts in higher classes. Initiatives like the Mid-Day Meal scheme and scholarships have positively impacted enrolment and retention, but quality and infrastructure remain areas of concern.

In the context of healthcare institutions and *Anganwadis*, these centres have evolved from primarily providing food to women and children to playing pivotal roles in early childhood education and nutrition. However, challenges include infrastructure issues, irregular attendance, and the need for standardized learning activities.

Lastly, financial services have improved in some villages, with the presence of banks, post offices, and self-help groups. SHGs have seen increased financial well-being, but they face challenges related to paperwork and fraud. Post offices have become critical communication hubs, and government schemes like *Pradhan Mantri Jan Dhan Yojana* have fostered financial inclusion. The presence of banking correspondents has reduced the gap between villagers and banking services.

Flagship Scheme Implementation

The introduction of various flagship programs in India demonstrates a concerted effort by the government to address socioeconomic issues and promote overall development. Analyzing these schemes reveals some key patterns and trends:

Generating awareness: it is a crucial first step for the successful implementation and impact of government schemes. In 2014-15, awareness levels were relatively low for several schemes, but significant progress has been made over the years. MGNREGA achieved the highest awareness level, reaching 100% in 2021-22, up from 80% in 2014-15.

- a. PMAY-R (*Pradhan Mantri Awas Yojana - Rural*) saw substantial growth in awareness, rising from 10% in 2014-15 to 78% in 2021-22. Other well-recognized schemes in rural villages include SBM (*Swachh Bharat Mission*) with 89% awareness in 2021-22.

- b. These high awareness levels can be attributed to extensive government campaigns and visible benefits, such as employment under MGNREGA and affordable rural housing under PMAY-R.

Diverse Socioeconomic Focus: These programs cover a wide range of socioeconomic issues, including employment generation, food security, financial inclusion, sanitation, clean energy, housing, and support for farmers and rural livelihoods. This diverse focus indicates a comprehensive approach to addressing the multifaceted challenges faced by the population.

Empowerment and Inclusion: Many schemes aim to empower marginalized and economically disadvantaged segments of society. For instance, MGNREGA targets the poor and marginalized by providing employment opportunities, while AAY focuses on food security for the poorest families. PMJDY promotes financial inclusion by providing banking services to the unbanked and underbanked population.

Infrastructure Development: Several programs prioritize infrastructure development. *Swachh Bharat Abhiyan* focuses on building toilets and improving sanitation, while PMAY-R provides affordable housing. These initiatives not only enhance living conditions but also generate employment opportunities in the construction sector.

Health and Environmental Impact: Some schemes, such as PMUY and *Swachh Bharat Abhiyan*, have significant health and environmental impacts. PMUY reduces indoor air pollution by providing clean cooking gas, improving the quality of life for rural women.

Swachh Bharat Abhiyan reduces waterborne illnesses and enhances environmental hygiene by ending open defecation.

Financial Support: Schemes like PM-KISAN and KCC offer direct financial support to small and marginal farmers. This support aims to alleviate financial burdens, enhance agricultural productivity, and ensure food security. PM-KISAN, in particular, focuses on the well-being of India's farming population.

Youth Development: The inclusion of programs like NRLM and DDU-GKY demonstrates a focus on youth development and employment. These programs aim to provide opportunities for rural youth to improve their livelihoods and add diversity to their incomes.

Long-Term Goals: Several programs have set ambitious long-term goals, such as ending open defecation (*Swachh Bharat Abhiyan*) and addressing housing shortages (PMAY-R). These goals reflect a commitment to achieving lasting change and improving the quality of life for the population.

Overall, these schemes collectively represent a comprehensive and holistic approach to addressing India's socioeconomic challenges, with a focus on empowerment, infrastructure development, health, environmental impact, financial support, and youth development.

Chapter-4

Changes in Rural Infrastructure and Basic Amenities

4.1 Infrastructure Gaps and Trends (2014 to 2022)

A Model village is one which has adequate physical and institutional infrastructure, in which minimum needs of all sections of the society are fully met; they live in harmony with each other, as also with the environment, and a village which is progressive and dynamic (as envisaged under *Pradhan Mantri Adarsh Gram Yojana*).

These villages should be covered with all the facilities necessary for dignified living, creating thereby an environment in which all its residents are enabled to utilise their potential to the fullest.

In general, these villages satisfy the following norms:

- ❖ Should be connected to the nearest major road by an all-weather road. Likewise, in case of a multi-hamlet village, all hamlets should be connected with each other by an all-weather road
- ❖ Access for all to safe drinking water on a sustainable basis
- ❖ All houses should have electricity
- ❖ The village should have slush-free internal roads, and adequate street lighting.
- ❖ Village should have adequate communication facilities, such as post-office, telephones, and, if possible, internet connection

- ❖ Availability of adequate banking facilities through regular (brick and mortar) branches in the village or in close proximity, and through Business Correspondent/ Business Facilitator Model.
- ❖ All residents should have adequate housing, and there should be no homeless family.
- ❖ The village should have a high degree of sanitation- it should be free from dry latrines, and open defecation, and should have sanitary toilets, drains and an efficient waste disposal system.
- ❖ Should have an *Anganwadi* centre and schools of appropriate levels.
- ❖ The village should have adequate building for its *anganwadi*, school, health centre, *panchayat*, and community hall.

To sum up, India's ideal village infrastructure seeks to address the unique needs of its diverse rural communities. Achieving this vision requires concerted efforts from government and local stakeholders, paving the way for equitable and prosperous rural development.

As part of the spatial and temporal study of infrastructure development, the following study seeks to observe changes in infrastructural facilities across 160 villages in a time span of 9 years (2014-2022). The following table provides glimpse of infrastructure facilities such as Road, Electricity, Drinking water, Toilet facility, availability of health services like deployment of ASHA worker, existence of *Anganwadi* centres, etc.

Table 7: Infrastructure Development in Sample Villages

Year	2014		2021	
	Avail able	Not Available	Avail able	Not Available
All weather Approach Road	38	05	20	0
Drinking Water-common sources	37	02	19	0
Electricity	41	03	20	0
ASHA Worker	30	02	20	0
<i>Anganwadi</i>	41	01	18	0
PHC/ Sub-PHC	15	23	14	04
School – Primary with Basic Facilities	44	0	20	0
Toilet facility	13	11	16	01
Mobile Connectivity	23	0	15	0
<i>Panchayat Bhawan/</i> Community Hall	29	12	20	01
Access to financial services	22	08	12	01

4.1.1 All-Weather Approach Road

In an agricultural dominant rural India, good infrastructure and particularly a good road network can generate multiple benefits in the rural economy in both the commercial and social spheres. Lack of all-season

road access was a key constraint for rural prosperity prior to implementation of PMGSY. *Pradhan Mantri Gram Sadak Yojana* (PMGSY-I) was launched in the year 2000 as a one-time special intervention to provide rural connectivity, by way of a single all-weather road, to the eligible unconnected habitations of designated population as per Census 2001. In the year 2013, PMGSY-II was launched for upgradation of selected Through Routes and Major Rural Links (MRLs) with a target to upgrade 50,000 Km in various States and Union Territories. Subsequently, in 2016, Road Connectivity Project for Left Wing Extremism Affected Areas (RCPLWEA) was launched for construction/upgradation of strategically important roads, as a separate vertical under PMGSY to improve the road connectivity in 44 worst affected LWE districts and some adjoining districts in 9 States.

In the year 2019, Government launched PMGSY-III for consolidation of 1,25,000 Km Through Routes and Major Rural Links connecting habitations, inter-alia, to Gramin Agricultural Markets (GrAMs), Higher Secondary Schools and Hospitals.

At the All India level by the year 2022-23, out of total 178,185 eligible habitations with 250 households, 156,491 (around 88%) habitations have been benefitted under PMGSY –III in the last four years in terms of rural road construction.

In 2014, out of total 43 villages covered, it was observed that 38 (95% of Villages) had all-weather approach

roads, while in 2021, all 20 (100%) villages surveyed were having all weather approach road. There has been a significant improvement in the availability of all-weather approach roads over the years 2014 to 2021 in the villages surveyed.

**Table 8: Frequency Distribution of Villages:
Availability of All Weather Roads**

Sl. No.	Year	Roads Available	Roads Not Available
1	2014 (FC 89)	38	6
2	2015 (FC 90)	34	2
3	2016 (FC 91)	17	0
4	2017 (FC 92)	10	2
5	2018 (FC 93)	5	0
6	2019 (FC 94)	12	1
7	2021 (FC 96)	20	0
8	2022 (FC 97)	7	1

The presence of all-weather roads in different villages is more or less on the **increasing trend** due to the implementation of *Pradhan Mantri Gram Sadak Yojana* as well as initiatives by the Gram *Panchayats* under National Rural Employment Guarantee Scheme.

One roadblock hampering the connectivity is the maintenance of the roads and their ability to support heavy motor vehicles. As an example, villages from Amroha district have reported siltation from the banks of river Ganga. Similarly, as reported by teams from the

97th Foundation Course in 2022, roads in villages in Shahjahanpur district, Uttar Pradesh have not been able to support the mechanisation brought by heavy vehicles.

Another observation common to many villages is that the main roads connecting the village to the district headquarters are all-weather and well-laid. However, substantial length of intra-village roads is non-motorable.

94th FC, Madhya Pradesh, Alirajpur, Bhabra, Mahendra - 2019

*Under Pradhan Mantri Gram Sadak Yojana, the village panchayat was connected to the district with all-weather road 5 years ago. Under **Panch Parmeshwar Yojana**, RCC roads to totalling around 2 KMs in length have been built within the village in the last five years owing to proactive efforts of the Gram Panchayat.*

Sakrja Village of Sondwa block, Alirajpur district of Madhya Pradesh had all-weather road in 2018 under the *Pradhan Mantri Gram Sadak Yojana* and is still under construction in different parts on the way. It connects Bakhargarh Village with Sakrja Village and is the only route available for the villagers to access facilities outside village (2019). **The village revisited in 2022 reveals that:** Due to hamlet settlement, the village is spread across a larger, area some part of which is not accessible by the road. Moreover, certain ‘falliyas’ have got disconnected due to the backwaters of Narmada.

Now, the accessibility to other parts of the village and the main district has improved. The village currently has bitumen road which connects it to the Mathwad. Moreover, the village also has small bridges to provide seamless connectivity across the drain channels.

Village: Dawan, Jagdishpur, District: Bhojpur

There were multiple main roads connecting the village to the other parts of the district with metalled road. The roads inside the village connecting different tollas were brick road (Khadanja). The roads connecting some *maha-dalit tolas* were *kuchha* (2016). **The village revisited in 2022 reveals that:** The village is connected to state highway with all-weather road. However, the roads inside the village are not motor able because of houses and hawkers on each side of the road.

4.1.2 Drinking Water

Absence of common water sources poses health and sanitation problems for the inhabitants of the village. There is an **increasing trend** in the availability of common water sources such as Wells, Ponds and tanks, etc. The implementation of ***Nal Se Jal Scheme*** is also contributing towards the generation of water assets in the village. This is also critical to the success and sustenance of *Swachh Bharat Mission* outcomes. However, the quality of water and the time of availability can be worked upon. Many villages have reported untreated water or erratic supply.

94th FC Rajasthan, Banswara, Ghatol, Savniya – 2019

As per the visit in 2019, in the Savniya village of Banswara district, Rajasthan, water tank built in the year 2015 under the Regional Grameen Payjal Yojana has contributed to water security. With a capacity of 70 kilolitres, the tank caters to all the seven villages under the Gram Panchayat.

*Piped water connection is found in majority of the households. **Village: Manana, Panipat, 2022.***

Table 9: Drinking Water – Common Sources

Year	Availability in Percentage of Villages
2014 (FC 89)	92.31
2015 (FC 90)	93.75
2016 (FC 91)	100.00
2017 (FC 92)	91.67
2018 (FC 93)	100.00
2019 (FC 94)	100.00
2021 (FC 96)	100.00
2022 (FC 97)	100.00

4.1.3 Electricity Availability

All the villages surveyed over the last 6 years show 100% electricity coverage to the village households. Thus, the sample size only re-affirms the fact that Government ambitious target of 100% village

electrification has been achieved on time. Now, the focus should be on providing reliable supply of power to all the households.

97th FC, Bihar, Bhojpur, Jagdishpur, Dawan, 2022

The Dawan villag in Bhojpur district of Bihar provided an innovative solution to ensure energy security. The village uses solar energy to meet its energy requirements, and many shops offer installation and repair facilities. This ensures that renewable energy

Table 10: Availability of Electricity Connections

Year	Percentage Available
2014 (FC 89)	93.18
2015 (FC 90)	94.44
2016 (FC 91)	100.00
2017 (FC 92)	100.00
2018 (FC 93)	100.00
2019 (FC 94)	100.00
2021 (FC 96)	100.00
2022 (FC 97)	100.00

4.1.4 Health Related Facilities

Barring a few exemptions, almost all the villages have ASHA workers. Over the last 5 years, all the samples have ASHA workers in their villages. It can be

reasonably inferred that the mandate of one ASHA worker for every 1000 people is maintained throughout the country, leading to better health outcomes.

Table 11: Frequency Distribution of Villages as per availability of ASHA Workers

Sl. No.	Year	Available	Not Available
1	2014	30	2
2	2015	22	0
3	2016	23	1
4	2017	8	1
5	2018	3	0
6	2019	14	0
7	2021	20	0
8	2022	8	0

Table 12: Availability of Anganwadi Centres

Year	Percentage Villages – Availability of Anganwadi Centres
2014 (FC 89)	97.62
2015 (FC 90)	100.00
2018 (FC 93)	100.00
2019 (FC 94)	100.00
2021 (FC 96)	100.00
2022 (FC 97)	100.00

There is near 100% presence of *Anganwadis* in the surveyed villages. Any exemptions during the initial

years (only one in each case) have been attended to and there is 100% achievement in the last 4 surveys.

97th FC Report - Haryana Panipat Samalkha Manana-2022

It's surprising that Manana has got about 10 anganwadis. Most of these anganwadis have got playing items for kids along with workers in full capacity. Nutritious food, mostly local food products, is made available to children of the age of 3 to 6. Activity based learning techniques, reciting rhymes as a group are some interesting aspects about the anganwadis in the village.

This has been made possible due to effective implementation of **ICDS scheme (Integrated Child Development Services) in convergence with MGNREGA** (Construction of *Anganwadi* is a permissible activity under MGNREGA).

Table 13: Primary Health Centre/ Sub-PHC Facility

Year	Percentage Available
2014 (FC 89)	39.47
2015 (FC 90)	50.00
2018 (FC 93)	100.00
2019 (FC 94)	100.00

The presence of PHC in the villages has been increasing over time i.e. from 40-50% in 2014 to

around 80% coverage in 2022. However, many villages still do not have a PHC or a Sub-Health Centre. Towards that end, there is scope for further improvement in this area as PHCs are the first line of defence against health hazards.

4.1.5 Availability of Primary School

There is near 100% presence of Primary school in all the surveyed villages. This helps in universalizing Education and plays an important role in the implementation of ‘Right to Free and Compulsory Education Act. However, across years, deficiencies in school infrastructure has been reported – for example, lack of functional toilets for girls, lack of playgrounds for children, poor quality basic infrastructure like benches etc.

Table 14: Presence of Schools

Year	Available in Percentage of Villages
2014 (FC 89)	100
2015 (FC 90)	100
2016 (FC 91)	96
2017 (FC 92)	100
2018 (FC 93)	100
2019 (FC 94)	100
2021 (FC 96)	100
2022 (FC 97)	100

4.1.6 Sanitation related – Toilet Facilities

From an average of 50 – 60% coverage during 2014, it has increased to nearly 90-100% in the last 5 years (2018-2022) thus leading to increased health and sanitation outcomes. This is mainly due to the thrust given on toilet construction by the *Swachh Bharat Abhiyan* (SBA) and convergence of PMAY- R with SBA.

Haryana, Panipat, Dhansauli – 2014

There are 2 schools in the Dhansauli village with adequate infrastructure. The senior secondary school has Gym and sports specific playground facilities.

All the schools have got good physical infrastructure like classrooms, laboratories, computer room, arts laboratory compound wall and playground Village: Manana, Panipat, 2022.

Table 15: Presence of Community Toilets

Year	Percentage Villages Toilets Available
2014 (FC 89)	54.17
2015 (FC 90)	57.06
2016 (FC 91)	86.36
2018 (FC 93)	100.00
2019 (FC 94)	100.00
2022 (FC 97)	100.00

Presence of Underground Drainage System in Dhanauli Village of Haryana

- Underground drainage system with Pavement of streets with CC/paver blocks with 3 tier structure under HRDF Scheme of Haryana

4.1.7 Mobile Connectivity

There is a provision of near 100% mobile connectivity for all the surveyed villages. *The villages without mobile connectivity are mostly the ones with hilly terrain or the ones in the shadow zone (Sakarja, 2022). Even in this case, BSNL has been roped in to provide network connectivity.*

Table16: Mobile Connectivity

Year	Percentage of villages- Available of Mobiles
2014 (FC 89)	91.30
2015 (FC 90)	100.00
2016 (FC 91)	100.00
2017 (FC 92)	100.00
2018 (FC 93)	100.00
2019 (FC 94)	100.00
2021 (FC 96)	100.00
2022 (FC 97)	100.00

89th FC Haryana Panipat Balana 2014

Mobile is the preferred mode of communication; most households have at least one mobile connection.

Most of the village has mobile connectivity. Fact to be noted that there are 3 mobile towers in the village and the Panchayat earns revenue from these towers
Village-Kasap, Bhojpur, Bihar, 2016.

Border villages like Taamli in Uttarakhand have reported absence of connectivity towers. Going forward, last mile connectivity can be ensured by putting further stress on covering inaccessible, border villages under the ambit of our digital revolution.

4.1.8 Availability of Panchayat Bhawan/ Community Centre

From an average of 70%, the coverage of Panchayat Bhawan and community halls in villages shows an **increasing trend** to nearly 100%. This would lead to other related outcomes like proper functioning of panchayats and enhanced delivery of services to the village people.

Table 17: Panchayat Bhawan/ Community Halls

Year	Percentage of villages: Available
2014 (FC 89)	70.73
2015 (FC 90)	74.19
2016 (FC 91)	80.00
2022 (FC 97)	100.00

It was one of the main reasons for *Gram Sabha* meetings being held seldomly. *Gram Sabha*, whenever it met, used to meet at someone's home, mostly at Mukhiya's home. Thus it came in way of free and fair expression of *Panchayati* rights of the village populace. Community Centres absent. A *Mahila Samakhya Kendra* (Adult Education Centre) did exist in the village, but it is non-functional at present Village – **Kasap, Bhojpur, Bihar, 2016.**

89th FC Report-Uttarakhand-Udham Singh Nagar-Bara-2014

The banking system in the village comprises mostly of co-operative banks. Though branches of two nationalised banks are present, the majority of population is catered by local co-operative banks. These banks act as loaning agencies for the farmers. The loan repayment rates by farmers to these co-operative banks are very high owing to gains made from farming. Co-operative banks have helped small farmers to buy seeds, fertilizers and machines.

89th FC Haryana Panipat Karad 2014

Social Infrastructure: Choupals are lifeblood of Karad's social life; these are large areas where people spend their time together. Many decisions regarding village life are made in choupals. Karad has seven such choupals.

4.1.9 Availability of Financial Institutions

From the data provided in the Village Survey reports, it can be inferred that there is **increasing penetration** of financial institutions at the village level during the period from 2014 to 2022. Various government interventions have helped in this increased rural presence of banks and other financial entities. This would be helpful in achieving the target of 100% financial inclusion. A comparative analysis of infrastructure of the villages Dawan and Sakarja reveals how the gaps have been plugged by Governmental interventions over a period of time.

Table 18: Access to Banking/Financial Services:

Sl. No.	Year	No. of Villages (Banks/ FI Available)	No. of Villages (Banks/ FI Not Available)
1	2014 (FC 89)	22	8
2	2015 (FC 90)	17	7
3	2016 (FC 91)	12	0
4	2017 (FC 92)	6	1
5	2018 (FC 93)	3	0
6	2019 (FC 94)	10	0
7	2021 (FC 96)	12	1
8	2022 (FC 97)	7	0

4.2 Comparative analysis of Infrastructure in the village repeatedly surveyed

Village: Dawan (Jagdishpur, Bhojpur, Bihar)

Amenity	Status as on 91 st FC (2016)	Status as on 97 th FC (2022)
School Infrastructure	Primary and Middle schools were functional; High school was under construction	Primary and Middle schools were functional; High school construction is completed and operational (not fully); a college is on the pipeline.
Agricultural Market facilities	Lack of adequate agricultural market facilities; (presence of petty shops only)	<i>Haat/</i> Local market is present (Rural <i>Haat</i> with 15 shops)
Community Latrine	Not present	Presence of functional community toilet constructed under <i>Swachh Bharat Mission</i>
Centralised water supply system	Absent	Constructed under <i>Nal se Jal Yojana</i>
Street Light	Absence of street light in the villages	<i>Mukhya Mantri Solar Street Light Yojana</i> has led to almost all the public places and streets having street lights.

Village: Sakarja (Sondwa, Alirajpur, Madhya Pradesh)

Amenity	Status as on 94 st FC (2019)	Status as on 97 th FC (2022)
All weather roads	All weather roads under construction in different parts of the village; existence of muddy roads as well.	The Village has good quality bitumen roads constructed under <i>Pradhan Mantri Gram Sadak Yojana</i>
Electricity	Electricity connection and infrastructure not fully operative.	Fully operative power lines and solar panels for the provision of electricity
Drinking water	No common provision for supply of drinking water	A community water tank has been sanctioned near the <i>Panchayat Bhawan</i>
Community Toilet	Public toilets/community latrines were not found	A community toilet near the primary school has been constructed under the <i>Swachh Bharat Mission</i>

Most of the improvements in infrastructure is due to the governmental action through flagship schemes such as *Pradhan Mantri Gram Sadak Yojana*, *Swachh Bharat Mission* and *Nal se Jal scheme*. Public toilets are found across the village. Open defecation is witnessed in some of the streets of Manana **Village: Manana, Panipat, 2022.**

4.3 Improvements in Infrastructure and Socio-Economic Outcomes

Enhancing the infrastructure in rural communities has the potential to significantly contribute to the improvement of socio-economic circumstances. Roads, which were once simple routes, now serve as a catalyst for economic development by establishing connections between towns and marketplaces, resulting in decreased transit expenses and enhanced trade facilitation.

Educational institutions that possess adequately skilled educators and well-equipped facilities play a crucial role in fostering the development of the younger population, hence disrupting the perpetuation of poverty. Primary health centres provide vital medical services, which contribute to the improvement of community health and productivity.

Electricity has a pivotal role in enhancing the quality of life by providing illumination, facilitating educational pursuits, supporting the operations of local enterprises, agriculture and contributing to the general welfare of individuals and communities. Mobile connection has a

crucial role in mitigating the digital divide by facilitating economic empowerment, promoting information dissemination, and enhancing communication and providing access to digital banking and facilitating Direct Benefit Transfer.

The provision of accessible toilets has been shown to have a positive impact on public health by reducing the transmission of waterborne infections. Additionally, the availability of such facilities contributes to the empowerment of women, as it enables them to participate fully in public life and promotes gender equality. Moreover, the presence of accessible toilets has been shown to boost overall well-being, as it ensures the dignity and comfort of those with disabilities or mobility limitations.

Community halls have a crucial role in facilitating social, cultural, and economic interactions, hence promoting social solidarity and empowering community-led endeavours.

The integration of this infrastructure collectively enhances rural landscapes, resulting in the generation of revenue, improvement of education and healthcare, empowerment of gender equality, and the development of social capital. It establishes the groundwork for a more optimistic future, offering the potential for success and overall welfare for everyone, irrespective of their geographical location. The on-going process of change has the potential to bring about more equity and prosperity in rural India.

97th FC Report - Haryana Panipat Samalkha Manana-2022

Playground as Community Infrastructure:

Manana has two big playgrounds that serve as a field where national and international level players are cultivated. Kho-Kho has been the most loved sport in the village and girls are bringing laurels to the village from various corners of the country. The sporting culture combined with well-maintained playgrounds encourage the youth of the village to march towards excellence.

Full time coaches are available for various sports. This guides the youth of village at very early stage towards playing at higher level. Thus, playground infrastructure combined with sporting culture serves as a blessed combination for the youth of Manana.

Jurka Village (2021) of Udham Singh Nagar District:

In the Village basic infrastructure is available, but maintenance of the same is poor. 2 huge water tanks and number of hand pumps provide drinking water to all households. *Jal Jeevan* Mission implementation is success here. Most people have mobiles and telephone connections are extensive.

Electricity- all households are connected to the grid. Solar powered street lights are common. School -Two primary schools keeping with norm of 1 km under RTE exists. The Village was not having a *Panchayat* building School premises mostly work as place for *gram Sabha* and most other meetings of the village. Huge water tanks

and number of hand pumps provide drinking water to all households. *Jal Jeevan* Mission implementation is success here.

Infrastructure facilities in rural areas are mostly provided through rural development schemes. In many of the villages, it was observed that roads are constructed under MGNREGA and PMGSY. Toilets at the household level and at the community levels had been constructed in all villages by the year 2021 under PMGAY-R and MGNREGA. The convergence of schemes like MGNREGA and PMGAY-R and *Swachh Bharat Mission* had been significantly contributed to construction of Toilets at the household level.

<p>There are no piped drinking water sources in the village. Also open wells, bore wells or any ponds are not identified in the village. The villagers primarily depend on the stagnant unhygienic waters of Narmada Dam reservoir. (Sakrja Village, Sondwa block, Alirajpur, Madhya Pradesh (2019)</p>	<p>Piped drinking water is available only in few households with most households still dependent on hand pumps. Drinking water in these households is not filtered They have to rely on hand pumps and drain channels for the same. There is a sanctioned plan for a water tank near the <i>Panchayati Raj Bhawan</i>, which would in future cater to the drinking needs of the villagers. (Sakrja Village, Sondwa block,</p>
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	Alirajpur, Madhya Pradesh (2022)
There was no centralized water supply scheme. Villagers were dependent on installed community hand pumps. Many Households have installed their private hand pumps. Village- Dawan, Bhojpur, Bihar (2016)	All households in 4291 Gram <i>Panchayats</i> that do not have access to good quality drinking water shall be provided clean drinking water through piped water supply under <i>Mukhyamantri Gramin Peyjal Nishchay Yojana</i> . Village- Dawan, Bhojpur, Bihar (2022)

Most of the parts of the village were electrified. However, some of the <i>Maha-Dalit</i> hamlets were not electrified. It was revealed by the villages that there was around 20 hours of supply of electricity per day in the village. Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2016)	Under <i>Mukhya Mantri Solar Street Light Yojana</i> , the village had street lights at every prominent intersection. There is an agency selected for providing the proper functioning of street lights. The scheme has resulted in the illumination of prominent <i>nukkads</i> of the village. It has enhanced the safety of the villagers. Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2022)
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<p>Electricity Connection was provided in the year 2018 in the village and was not fully operational. Lack of internet and electricity keeps them away from all sort of modern of modern education and information. Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2019)</p>	<p>The village has electricity connectivity. Both power lines and solar panels are used for the provision of electricity. However, the power supply in the village remains erratic. Power cuts are very frequent and the supply is low. There are no street lights in the village. Moreover, some “falliyas” remain not connected due to the hilly terrain and no access to the road as they are cut from the main village due to backwaters. Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2022)</p>
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<p>There was absence of any institutional health facilities like PHC or Sub-PHC. The village was also not having an <i>Anganwadi</i> Centre. The ANM visited once in three months, as the ANM had to cover 11</p>	<p>There was no Primary health care centre or sub centre in the village and no permanent ASHA worker has been appointed to the Sakarja village. The villagers weren't aware about Auxiliary Nurse Midwife</p>
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<p>Villages. Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2019)</p>	<p>(ANM) as the post has been vacant. Five <i>Anganwadi</i> workers have been appointed but a permanent <i>Anganwadi</i> centre was missing and they set up temporary arrangements to provide the services.</p> <p>One major reason is that due to lack of mobile network, the outsiders lack interest in going there.</p> <p>Several women shared their ordeal of having to undergo delivery of babies in their homes due to the absence of midwives and PHC in the village.</p> <p>Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2022)</p>
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<p>There were total 11 Government Primary Schools including one Urdu School, in the Village <i>Panchayat</i>. Mainly the children of</p>	<p>The village has 11 schools including 1 High School. A college is in the pipelines, it will take another 6 months or so to become operational.</p>
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<p><i>Mahadalit</i>, OBC and Muslim community were enrolled in these schools.</p> <p>Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2016)</p>	<p>Toilets are not in good condition and their numbers are not sufficient.</p> <p>Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2022)</p>
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<p>The Village Primary school had two buildings and one of the buildings was not used. There were no benches and desks available in the class rooms. Some of the students were given school uniforms. There were separate toilets for girls and boys.</p> <p>Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2019)</p>	<p>The village has primary school till class 8th. In its vicinity is the community toilet which has been constructed under <i>Swachh Bharat Mission</i>. In the earlier times, due to the village's poor connectivity by road and lack of local school, not going to school was the norm. Although the primary school has a sanctioned strength of 4 permanent teachers but there is only one permanent teacher. There is a lack of playground facilities for the students which hamper their overall development as well.</p> <p>Sakrja Village of Sondwa block,</p>
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	Alirajpur, Madhya Pradesh (2022)
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<p>Around 50% of the households in the village had toilets and all of these were constructed as part of the scheme: <i>Pradhan Mantri Awas Yojana (Grameen)</i>.</p> <p>Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2019)</p>	<p>Individual latrines were built for 185 households and 1 community toilet was built under <i>Swachh Bharat Mission</i>.</p> <p>Sakrja Village of Sondwa block, Alirajpur, Madhya Pradesh (2022)</p>
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<p>Very few households (15% households) in Dawan <i>Panchayat</i> area were found have functional toilets.</p> <p>Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2016)</p>	<p>All 1065 households were having toilets and most of them were used.</p> <p>Village- Dawan, Block – Jagdishpur, Bhojpur, Bihar (2022)</p>
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Chapter-5

Spatial and Temporal Analysis of Progress of Implementation of Major Rural Development Schemes

5.1. Introduction of schemes in brief and inventory of schemes

Over the years, the Indian government has introduced a number of flagship programmes, each of which was created to solve a particular socioeconomic issue and promote overall development in the country. These programmes are a vital part of the government's initiatives to support underserved populations, develop the infrastructure, deliver essential services, and foster economic development. We will examine some of the most important flagship programmes in this debate, looking at their goals, successes, and effects on the growth of the nation.

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

With a focus on the poor and marginalised, it provides rural households with a 100-day salary employment guarantee. MGNREGA addresses seasonal unemployment, advances income equality, and supports rural development in all rural areas of the nation. It has greatly improved the lives of millions of people by reducing poverty, empowering women, and improving rural livelihoods by creating jobs and building rural

infrastructure. Due to its wide-ranging rural coverage, MGNREGA is an essential tool for bringing about social and economic change in India's rural areas.

Antyodaya Anna Yojana (AAY)

It is a government-sponsored food security program in India. Its primary objective is to provide highly subsidized food grains to the poorest of the poor families, particularly those living below the poverty line. Under the scheme, eligible beneficiaries receive food grains at a nominal cost, ensuring their basic nutritional needs are met. AAY plays a crucial role in addressing food insecurity and malnutrition among vulnerable populations, promoting social equity, and improving the overall well-being of the marginalized and economically disadvantaged segments of society. It stands as a critical component of India's efforts to combat poverty and hunger.

Pradhan Mantri Jan Dhan Yojana

Launched in 2014, PMJDY aims to increase financial inclusion by giving the unbanked and underbanked population access to financial services. It aims to have at least one bank account in each home. The scheme saw the opening of over 41 crores accounts by August 2021, with a combined deposit balance of more than 1.46 lakh crores. PMJDY has streamlined government benefit transfers, boosted credit availability, and improved financial literacy. It has been crucial in minimising subsidy distribution leakages.

The Clean India Mission (*Swachh Bharat Abhiyan*)

This project, which was started in 2014, aims to end open defecation, enhance sanitation, and encourage cleanliness and hygiene throughout the nation. The *Swachh Bharat Abhiyan* has made important strides in building toilets in rural and urban areas, improving sanitation coverage. There are now more than 11 crores toilets and a number of states and union territories have made open defecation illegal. The campaign increased citizen dignity and wellbeing, particularly for women and children, as well as health and hygiene issues. It has decreased waterborne illnesses and improved environmental hygiene.

Pradhan Mantri Ujjwala Yojana (PMUY)

The *Pradhan Mantri Ujjwala Yojana* (PMUY), which was established in 2016, intends to give clean cooking gas (LPG) connections to women from homes with lower incomes in order to lower indoor air pollution and health concerns related to conventional cooking methods. As of August 2021, PMUY had provided more than 8.5 crores LPG connections to beneficiaries, a tremendous success. By lowering the amount of toxic gases that millions of rural women are exposed to, this programme has improved their quality of life.

Pradhan Mantri Awas Yojana

Launched in 2015, PMAY intends to end homelessness and housing shortages by 2022 by offering affordable

housing to the urban poor. In building inexpensive homes for urban residents, PMAYU has achieved significant success. More than 50 lakh homes have been completed, and over 1.1 crores homes have received approval. This scheme has improved living conditions for urban poor families, providing them with a sense of security and dignity. It has also generated employment opportunities in the construction sector.

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

It is a government initiative in India aimed at providing direct income support to small and marginal farmers. Under this scheme, eligible farmers receive financial assistance of Rs. 6,000 per year, paid in three equal instalments, to help them meet their agricultural expenses and improve their livelihoods. The scheme is designed to alleviate farmers' financial burdens, enhance agricultural productivity, and ensure food security. It targets the most vulnerable agricultural communities, providing them with a stable source of income support. PM-KISAN is a significant step toward addressing rural poverty and promoting the well-being of India's farming population.

Kisan Credit Card (KCC)

An essential Indian programme for funding agriculture is the Kisan Credit Card (KCC) scheme. Its main goal is to offer farmers timely and cost effective credit to suit their needs for agriculture and related needs. A credit card that functions as a revolving cash credit facility and

allows eligible farmers to withdraw money in accordance with their agricultural needs is provided to them under the KCC system. It pays for a variety of costs, including crop cultivation, input purchases, upkeep of farm equipment, and post-harvest expenses. Through providing simple access to finance for rural agricultural communities, the programme seeks to advance financial inclusion, empower farmers, increase agricultural productivity, and guarantee food security.

National Rural Livelihoods Mission (NRLM) – *Aajeevika*

It was launched by the Ministry of Rural Development (MoRD), Government of India in June 2011 as a restructured version of *Swarna Jayanti Gram Swarozgar Yojana* (SGSY). NRLM has the mandate of reaching out to 100 million rural poor in 6 lakh villages across the country. Aided in part through investment support by the World Bank, the Mission aims at creating efficient and effective institutional platforms of the rural poor, enabling them to increase household income through sustainable livelihoods enhancements and improved access to financial services. The Ministry of Rural Development (MoRD) announced the *Deen Dayal Upadhyaya Grameen Kaushalya Yojana* (DDU-GKY) on *Antyodaya Diwas* - 25th September 2014. DDU-GKY is a part of the National Rural Livelihood Mission (NRLM), tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth. DDU-GKY is

uniquely focused on rural youth between the ages of 15 and 35 years from poor families.

5.2. Implementation of Schemes - A Spatial and Temporal Perspective

“You can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future.”- Steve Jobs

The Field Study and Research Programme taken up by Officer Trainees of Lal Bahadur Shastri National Academy of Administration was used as the source of primary survey point for the study on Spatial and temporal analysis of Flagship schemes of Government of India. It is spanning from the year 2014-15 to the year 2021-22. In seven years many schemes had taken its desired shape in rural India and has reached the culmination point what was desired by policy makers while designing those. The schemes like MGNREGA, *Swachh Bharat Abhiyan*, PM-JDY, NRLM etc. are studied for their growth over the years and inferences were drawn.

5.2.1 Awareness about the schemes

Generating awareness about any scheme is the foremost step towards successful implementation and desired impact of the schemes. The base year for most of the schemes were kept at 2014-15 owing to the fact that most of the schemes either started in that year or got their major revamp in that year. The basic descriptive

statistics of counting the number of village aware about the scheme and taking the percentage of them revealed that there is a significant rise in awareness in villages about almost all flagship schemes in rural villages. All the villages studied were aware about MGNREGA scheme in 2021-22 while the awareness level of it was around 80 percent in 2014-15. From the table we can corroborate that PMAY-R reached only 10 percent of village in 2014-15 while in recent years in has reached to 80 percent of the villages.

People of Sakarja, Bhojpur of Bihar (2022) were aware of the existence of the scheme as the awareness was created through *panchayat* secretary. There was a dashboard of beneficiaries in the *Panchayat Bhavan* in terms of beneficiary names listed on the wall and this acted as a medium of awareness for the scheme. On interaction with beneficiaries of the scheme the awareness was found to be high in terms of the nature of the scheme though not about the various stages of payments involved in the scheme.

Table 19: Percentage of Villages, where awareness about flagship schemes of Government of India is observed

Sl. No.	Awareness about the scheme	2014-15 (in percentage)	2021-22 (in percentage)
1	Housing: PMAY-R	10	78
2	PM-JAY	0	10
3	SBM	48	89
4	PMKVY	0	7

5	MGNREGA	80	100
6	PDS/ AAY	75	77
7	PM-JDY	7	28
8	PM-KISAN	0	46
9	KCC	4	35
10	Social Security Scheme	6	21
11	<i>Ujjwala Yojana</i>	0	42
12	NRLM	16	25
13	DDU-GKY	0	3

From the table, it can be seen that during 2014 schemes like *Pradhan Mantri Jan Arogya Yojana*, *Pradhan Mantri Kaushal Vikas Yojana*, *Ujjwala Yojana*, DDU-GKY and PM-KISAN were not operational and all these schemes came into existence after 2014.

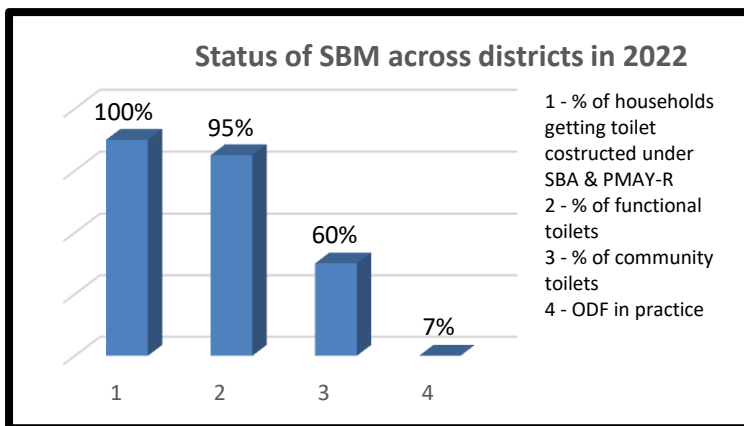
The predominant schemes which villages found to be more aware about were MGNREGA, SBM, and PMAY-R. The palpable reason could be intensive advertisement and campaign by the government for example in case of *Swachh Bharat Mission*, the visible benefit for the villagers for example MGNREGA for employment and PMAY-R for affordable rural housing. In Dawan village of Bhojpur District, Bihar people were keen to build and use toilets, only few were practicing open defecation due to old habit (Dawan, 2022)

It is evident that MGNREGA has performed exceedingly well over the years. From reports of 2014-15, we found out many issues associated with the schemes and the villages witnessed a gradual but significant change over

the years which we could see from 2015 to 2022 reports. In 2014, many households do not get more than 75 days of work despite wanting it. Payments were often delayed beyond three months, defeating the purpose of securing livelihoods during the lean season. Again projects undertaken do not create substantive productive assets. Disbursement of funds are erratic and stuck at the district headquarters level. Lack of knowledge-awareness about unemployment allowance are to be paid if work is not available. Report portrays lack of common land and resources leads to absence of adequate work and heavy migration flows to nearby districts. Again, critical support during lean period. It has pushed up farm wage rate substantially and reduced migration flows.

However, it has resulted in shortage of agricultural labour. The hilly terrain restricts the scope of work that can be taken up under MGNREGA. Female participation is higher than that of males. In some places, in case of non-availability of work, cutting of grass and other overgrown vegetation in the local area is taken up. The scheme has not had much penetration in the village. Only about 30-35 days of work have been made available, and only about 25% of the population has been a beneficiary. No work has been done under the scheme for the past two years. Most have MGNREGA cards. However, the *Pradhan* favours only his acquaintances in dispensing jobs available. Social auditing takes place regularly, but again, not in the right spirit. Massive sums have been recorded as spent on MGNREGA works, but this is in no way reflected in ground reality. Wages are low and untimely. Job cards have been distributed to

relatively better-off sections while the poorer sections, such as SCs, have been excluded and are unaware of the scheme. At some places MGNREGA is entirely dysfunctional due to corruption.



Source: Primary Survey

5.3 Spatial Analysis of Schemes

Rajasthan - Jaisalmer

Swachh Bharat Abhiyan- There was high awareness about the scheme. The scheme has around 80% coverage. Awareness program are being organized in gram *panchayat* twice a year. Certain villages like Khuhadi in the district has been declared ODF village. Moreover, one village in the district named Satto had also dustbin placed at certain interval. Apart from personal toilets community toilets has also been built in many villages.

The awareness about the SBM programme was found to be widespread in general, cutting across different communities residing in the village. Children were the most informed and were the most active participants in the ODF (Open Defecation Free under SBM) campaign. Many women and elderly persons had not heard about the campaign. Even amongst those who had an idea about the programme, construction of free toilets by the government was the more popular understanding rather than the name and provisions of the campaign. Awareness was more within the dominant community (*Jats*) and the Muslims. The disadvantaged sections (belonging to SCs) were less aware and many didn't even have toilets at their residence. In general, the awareness level in the village was satisfactory (**Village: Hasanpur, Bijnore, Uttar Pradesh, 2016**).

MGNREGA - The scheme has been efficient in providing employment when demanded. There is almost 100% awareness about it. Moreover it covers around 80% of household which included 12-25% SC in certain villages and 70-80% are women. The work undertaken included Nala, ponds, local road etc.

(MGNREGA in the Village- Boraiki, Bijnore, Uttar Pradesh, 2016): In the FY 2015-16, total expenditure of Rs.691817.00 was made for various works under the Act. The total number of man-days work recorded was 4297. In the FY 2016-17, so far 3671 number of man-days work have been executed within the time frame of April to

October, 2016. Areas of work in this village comprise of agricultural land levelling, pond renovation, drainage cleaning, road repairing and construction of bridge. The village *panchayat* has issued 224 job cards so far since 2008, out of which 80 percent are males. In this FY 2016-17, 8 job cards have been issued. From the demographic data of the village, it is clear to us that nearly 70 percent of villagers belong to Muslim community. It has been found out from our field survey that very few people belonging to Muslim community are working for MGNREGA works. Almost there is negligible presence of Muslim women in these works. It might be because of social constraints or social practice. This has been corroborated when we interacted with different Self Help Groups which are working under the National Rural Livelihood Mission (NRLM). Even among males, people from other communities participate more in numbers. Females from *dalit* communities have claimed that they prefer not to work on MGNREGA works as many males use abusive language among each other. Instead, they are happier to do household chores or any other works than working in such an environment. It may be mentioned that not everyone is getting 100 man-days of work which is mandated under the Act. In the FY 2015-16, 4297 man-days work was done and there were 216 job card holders. This comes to 20 man-days work (approx.) per job card holder. Villagers have voiced their discontent over non-release of wages regularly. Instances of non-payment of exact wages have also been reported to some extent.

PMAWAS-Grameen - This scheme also has widespread awareness across villages. In some villages it

has been linked with MGNREGA. In one village Khuhadi houses are built along with rain water harvesting system.

PM-KISAN- It has been observed that awareness is low about this scheme. Very few people have got benefits under the scheme.

Timely credit transfer as per PM-KISAN scheme,
Village: Manana, Panipat, 2022.

Mid-Day Meal Scheme- The scheme has been popular among masses. It addresses malnutrition and enrolment has been doubled due to this scheme. It has also increased socialization among children. The food is nutritious and cooked in hygiene condition in the village accessed.

Pradhan Mantri Ujjwala Yojana- Awareness is high regarding the scheme. The coverage is also high. However people have complained about high price of refilling the cylinders.

Pradhan Mantri Gram Sadak Yojana- Found to be one of the effective schemes. It has been converged with MGNREGA. Also the roads were in good conditions.

The schemes in operation in Fagpur village for poverty alleviation and employment generation are as follows: Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), *Deendayal Antyodaya Yojana – NRLM*, *Pradhan Mantri Awas Yojana-Gramin (PMAY-G)*, *Pradhan Mantri Gramin Sadak Yojana (PMGSY)*, *Shyama Prasad Mukherji Rurban Mission (NRuM)*,

Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY), Border Area Development Programme (BADP), Pension Schemes, National Food Security Mission (NFSM), *Pradhan Mantri Ujjwala Yojana* (PMUY), *Pradhan Mantri Garib Kalyan Yojana* (PMGKY), National Nutrition Mission (NNM), *Poshan Abhiyan*, *Prime Minister Street Vendor's Atma Nirbhar Nidhi* – PM SVanidhi (**Village- Fagpur, Champawat, Uttarkhand, 2021**).

Bihar- West Champaran district

Swachh Bharat Mission- This district also has high awareness regards the scheme. They also had *Swachh Bharat Mitra* to promote the scheme. To promote awareness there were pictographs on village walls. The Bihar government have come up with special provision for SC/ST household which included provision of Rs.8000 for construction of toilets. It has been reported that open defecation reduced by 60-70%. There has also been community led total sanitation approach which included oath taking, monitoring etc. To complement under '*Nal Jal Yojana*' part of 7 *Nischay Yojana* of state government tap water has been functional in houses which further compliments usage of toilets. Few villages have been declared ODF as well.

- MGNREGA - The scheme has high level of awareness. Assets were geo-tagged
- PM-KISAN - The awareness was high about the scheme, the awareness was spread through '*Aam Sabha*'. Farmers received timely payment. It eased their liquidity constrain by enabling them

to procure inputs such as seeds, fertilizers, equipment etc.

- *Samagra Siksha Abhiyan* - children were provided compulsory free education till 18years, free meal, free books. Schools had 100% enrolled for primary school. Even in one village CSR funds was used for building school infrastructure.
- *JAL JEEVAN* - high level of awareness as *Aam Sabha* had broadcasted messages about the scheme. It is integrated with state government scheme. It has 90% of household connected under tap water.
- *Ayushman Bharat* - awareness about these schemes is quite low. Even less people are covered under this scheme.
- *Pradhan Mantri Matru Vandana Yojana* - It has led to institutional deliveries, increased vaccination level and reduced mortality.

Uttarkhand - Champawat district

- *Swachh Bharat Mission* - Convergence of two schemes Mahatma Gandhi National Rural Employment Guarantee (MGNREGA) and *Pradhan Mantri Awas Yojana* (PMAY) to build toilets. Awareness about the scheme was there. Organic waste management in the form of manures used as fertilizers was the bright spot. School children were enthusiastic and very much aware about *Swachh Bharat*. One issue that needs to be taken care of is poor segregation of waste and in certain villages there were no dustbin for collection of waste.

- MGNREGA - Provided employment to villagers in agricultural off seasons like during winters. Convergence of the scheme with state run Tea Development Board. The scheme has helped in creating crucial village assets. The coverage in certain villages were 95%.
- *Ayushman Bharat* - Most of the villagers were registered to the scheme through e-service centres. Villagers had knowledge about the benefits of the scheme and the procedure to avail medical claim. Helped in reducing out of pocket expenditure towards medical services
- DAY-NRLM - Government aided SHG's were smoothly running in the village employing 128 women Sanitary pad manufacturing enterprise created in village. Scheme has helped in empowering the women and breaking shackles of patriarchy. The scheme through the SHGs has helped in building small businesses like beauty parlours and tailoring shops.
- *Pradhan Mantri Matru Vandana Yojana* - Although villagers don't know the name of the scheme, they are aware there is a scheme that pays 5000 rupees to first time pregnant women. ASHA and *Anganwadi* workers have done a tremendous job in making expectant mothers aware about the benefits of the scheme. Vaccinations were provided in a timely payment. Delay in release of payment caused resentment amongst beneficiaries.
- *Sarva Shiksha Abhiyan* - Villagers were fully aware of the elementary universal education.

Children are eager to go to school and there is hardly any dropout rate. Mid-day meal scheme is efficiently implemented. Teacher vacancies and poor school infrastructure were some of the sore points of the scheme.

Uttarakhand - udham singh nagar district

- *Swachh Bharat Mission* - Awareness about the scheme was high. Toilets were constructed also *pucca* drains. *Swachhta* drive was undertaken in school. In some villages there were *gobar* gas plant installed.
- NRLM - under this scheme many SHG are functional who are involved in many activities like making '*mirch masala*', baskets, bags, mushroom farming etc.
- ICDS - *Bal Pariyojana* implementation across the district watched by *Anganwadi* members.
- PMAWAS - awareness regarding the scheme was high. Most family benefitted from the scheme.
- MGNREGA - almost every household funny aware well utilised scheme. Most of the BPL families are covered under the scheme.

5.4 Comparative Sectoral Analysis of Flagship Schemes

Health and Health Related Services

Janani Suraksha Yojana (JSY): It has been largely observed that the functioning of JSY has been better in the western state of Rajasthan, in villages like Sildar and

Girwar, where 100% institutional deliveries have been achieved due to the financial incentives attached to the delivery. On the other hand, poor penetration of the same scheme has been observed in 2017 in Katahari village of West Champaran district of Bihar.

National Rural Health Mission: *The sub health centre in Kayamnagar village of Bhojpur, Bihar lacks a lot of things needed for emergency care. Similarly, commutation to the nearest PHC is difficult as it is about 9 km away in Mahanava village, West Champaran, Bihar. On the other hand, the western state of Rajasthan has a regular plan for Jan Sunwai, Prathmik Swasthya Kendra, or Family Health plan across most surveyed villages.*

*Only 35-40% of the houses had a toilet at the household level. There were good arrangements of maternity care in the village itself. Both health sub Centre as well as the PHC are well equipped labour rooms but the issue is their cleanliness. Janani Suraksha Yojana is very well functioning in the village and provides Rs. 1400 for every institutional delivery (Village-**Birampur, Bhojpur, Bihar, 2016**).*

*The village had about 100% institutional delivery. ASHAs played a major role in promoting maternal care-supplied IFA tablets to pregnant woman from 3months, took them for antenatal check-ups. ANM administers 2 doses of ns to the pregnant woman. Lactating mothers are given Poshahar in the Anganwadi centre (Village-**Boraiki, Bijnore, Uttar Pradesh, 2016**).*

ASHA takes care of pregnant women and also takes her to hospital for delivery. They are paid incentive in the form of Rupees 600 per institutional delivery. She also

give iron and Folic acid medicines. She visits houses to give information about nutrition. People generally listen to them. They try hard to convince people about the importance of good health and hygiene. They ensure that all children are immunized. The change that they have brought is that pregnant women and children are now getting easy access to health facilities **Village: Hasanpur, Bijnore, Uttar Pradesh, 2016).**

Pradhan Mantri Matru Vandana Yojana is implemented in village but due to customary values many women give birth to their child at home itself which enhances risk of maternal mortality and infant mortality, **Village: Natthapurm, Shahjahanpur, State: Uttar Pradesh, 2022.**

Water and Sanitation

Swachh Bharat Mission: Owing to the structure of the SBM, the awareness of the scheme was observed amongst the masses. Door-to-door campaigning, swachhta grahis, swachhta rath were all very important pillars in spreading awareness about the mission. Although structural problems like inadequacy of the fund of Rs.12000, lack of water connection and absence of community toilets are also prevalent in quite a few villages. Even outlier conditions, like Dhobaha, Bhojpur, Bihar were traced, where 85% of toilets were non-functional.

The residents use water from hand pumps installed in their houses or in their absence, community hand pumps, 26 of which have been installed, for drinking purposes. The village does not have drinking water pipeline or

water tank. Further most of the residents do not have any method of filtering the water - they do not even use a sieving cloth for this purpose. Government Pipeline is laid in the village to provide drinking water. About 10-12 households have a common tap. The water is many a times contaminated (Village- Boraiki, Bijnore, Uttar Pradesh, 2016).

Puranpur village of Udham Singh Nagar was declared Open Defecation Free (ODF) on 31 Dec 2016. Toilet construction - Prior to the SBM, close to 60% families had toilets at their home. Rest of the toilets have been constructed since then. Rs.12,000 had been allocated for each toilet construction. The toilets are functional and are being used on a daily purpose for the designated purpose. Thus, the ODF status for the village has been visible. During one of the interactions, villagers complained that only Rs.10,000 was provided for the construction of the toilet with Rs.2,000 as leakage cost. Villagers in general are aware of the amount allocated per toilet construction

Best Practices in Anganwadi

In 2022, Manana, Haryana, proudly hosts ten well-equipped *Anganwadi* centres that play a pivotal role in early childhood education and nutrition, particularly benefiting the children of daily wage-working mothers.

In Champawat, Uttarakhand, *Anganwadis* effectively implement the *Beti Bachao, Beti Padhao* initiative, resulting in a notable improvement in the sex ratio to 1156 females per 1000 males. These centres are now

actively involved in promoting the significance of girl children during pregnancy celebrations.

Education

Mid-Day Meals: Generic observation was that mid-day meal scheme was functional and as per the menu. This was largely satisfactory for the students as well as the teachers.

There are 5 government schools and 4 private schools in the village. Out of 5 government schools, one is high school and one is middle school which also has primary classes. All three primary schools and middle school lack of necessary infrastructure and have space crunch. (Village-Birampur, Bhojpur, Bihar, 2016) Government school buildings are not in a good condition. Schools did not have basic electricity facilities. Majority of the schools lacked any campus boundary. The provision of toilet was there, but was not fit for students use, (Purvi Gundi, Bhojpur, Bihar, 2016). Project Kayakalp has to be implemented in letter and spirit which would solve many issues like drainage, electricity, infra of the school through synergy with government departments, Village: Natthapur, Shahjahanpur, State: Uttar Pradesh, 2022.

Employment

MGNREGA: This has been one of the highest rural employers. However, lack of impact assessment, low wages, and lack of awareness remains the general lacuna in the villages in Bhojpur, Bihar. Rajasthan is

comparatively better, even when Alapa, Rajasthan remains an area of low wages and low demand for work.

National Rural Livelihood Mission: The number of SHGs across the villages is reportedly ranging from 1-10, these SHGs have approximately 95% women beneficiaries and also contribute towards marginalised sections like the scheduled tribe.

Financial Literacy

The financial literacy campaigns have been functioning well in regions of Bihar. Fundamental difficulties like uncooperative banking correspondents or non-functional bank extensions do exist, however, *Jan Dhan Yojana* has been largely successful with 90-100% financial inclusion across the villages.

Every family has a bank account now, under PM Jan Dhan Yojana, Village-Birampur, Bhojpur, Bihar, 2016. In total 543 accounts were opened in nationalized and cooperative banks by villagers to carry out their banking transactions. 100% farmers were beneficiaries of credit facility through Kisan Credit Card. Most of the farmers were having KCC of Punjab National Bank. (Village-Boraiki, Bijnore, Uttar Pradesh, 2016).

Poverty Alleviation Programme

Public Distribution System: Despite the inclusion and exclusion errors, the *Antyodaya* households, and other

BPL category households receive their ration allocations on time.

PDS shop with PoS system and Aadhaar seeded with PDS thus enabling smooth delivery of food grains under National Food Security Mission and Pradhan Mantri Garib Kalyan Anna Yojana during the pandemic. The families belonging to the BPL, Antyodaya households and Priority households as identified by the state government benefitted from the scheme (Village-Fagpur, Champawat, Uttarkhand, 2021).

Under the National Rural Livelihood Mission, the SHG programme was in the nascent stages. A total of 3 Self Help Groups (SHGs) were conceived but they were still in the deliberation stage of the activity they wanted to undertake. The possible ideas in their minds were papad making, candle making, sewing. One of the SHGs was to get the institutionalised Capitalised Fund (ICF) of Rs. 1,10,000 from the bank. The SHG's had till now worked democratically as they had elected their president, vice president and treasurer amongst themselves. One flaw in the SHG's was that there was a lack of participation by the Balmiki women therefore it is suggested that there involvement should be made mandatory (Village: Hasanpur, Bijnore, Uttar Pradesh, 2016).

In Kasap village 38 Self Help Groups (SHG) are formed. The size of each SHG varies from 10-15 members. There are 3 Voluntary Organisation (VO) formed in Kasap village. Cluster Level Federation (1 cluster is a composition of 5 panchayats) are yet to be formed.

Poultry farming is the main activity undertaken by the SHG. The SHG members stated that there is more hard cash in their hands after undertaking poultry farming under Ajeevika.

*The impact of NRLM on the lives of the SHG members are depicted in an Impact Flow Analysis diagram. The SHG members wanted more accounts to be opened and more funds to be released. The SHG is planning to commence food and eateries business under NRLM. Also they are interested in the rearing of Goats. They perceive that NRLM is more powerful than MNREGA in the upliftment of economic and social status of women. Despite their income from NRLM scheme, the SHG members wants to be included in the BPL list as they perceive that they can get concessions from the government. It was one of the main reasons for Gram Sabha meetings being held seldomly. Gram Sabha, whenever it met, used to meet at someone's home, mostly at Mukhiya's home. Thus it came in way of free and fair expression of Panchayati rights of the village populace. Community Centres absent. A Mahila Samakhya Kendra (Adult Education Centre) did exist in the village, but it is non-functional at present **Village-Kasap, Bhojpur, Bihar, 2016.***

MGNREGA is less effective in the village (Puranpur Village, Udham Singh Nagar, 2021) as daily wages is around Rs. 400 per day, while wages under MGNREGA is Rs. 270.00. Villages dependency on MGNREGA is very less. From the same village, it is reported that majority of the villagers have bank accounts under Jan

Dhan Yojana. Coverage of farmers had been 100% under PMKISAN scheme and the farmers were well aware about the scheme. However, concerns over the scheme – Fasal Bima Yojana had been that the amount of premium is in higher side as compared to the settled claims and it is not useful for small farmers.

Best Practices in SHGs

A 2022 report from Panipat, Haryana reveals the presence of more than 22 active SHGs in the village, engaged in diverse activities ranging from opening *Jan Dhan* accounts to collaborating with factories for employment opportunities like packaging, teddy bear production, sewing, and handloom work. Many group members reported improved financial well-being, including enhanced savings, easier access to bank loans, and heightened awareness of government schemes like the *Sukanya Samridhhi Yojana*.

Under the *Rajeevika* scheme initiated by the Rajasthan Government, SHGs receive financial aid for income-generating ventures, including agriculture, livestock rearing, and handicrafts. This financial support empowers SHG members, elevating their financial independence and living standards. For instance, in Girwar village, located in Sirohi District, Rajasthan, women established an SHG and secured funding to commence a dairy business. This not only augmented their income but also bolstered the overall economic prosperity of the village.

Housing: Transition from *Indira Awas Yojana* that provided funds to BPL households for construction of *pucca* houses, to *Pradhan Mantri Awas Yojana* is better observed in Rajasthan, with sanction of greater number of houses. However, still most of the villagers live in *kutcha* houses due to lack of modelled development or exclusion errors due to SECC data of the area.

Best Practices and Case Studies:

- The usage of *nukkad nataks* and *swachhta grahis* generates higher awareness for sanitation and in favour of *Swachh Bharat Mission* across all surveyed villages in Bihar and Rajasthan.
- Timely electronic benefit transfer in Rajasthan have led to 100% institutional deliveries under the *Janani Suraksha Yojana* in Girwar and Sildar, Rajasthan.
- In Rampur village of West Champaran district, one lady who was a member of SHG 'AJIVIKA' refused to marry in a house where toilet was not there. This is an example of behavioral change that this scheme has brought.
- Srinagar village under Jamunia *Panchayat* of West Champaran district is a model village in terms of *Swaach Bharat Mission* ground implementation. Roads were clean, everyone used toilet. There is a self-reliant waste management system also dustbins at different locations.
- In Rampur village of West Champaran district under MGNREGA they have undertaken social forestry as well. It has resulted in indirect benefit

such as area for grazing cattle, minor forest products and buffer for flood.

- The Mid Day Meal scheme has made a great positive impact in the education and increased enrolment e.g. Kasap village of Bhojpur district. Apart from the MDM scheme, the various initiatives like providing incentive through scholarships, providing free books and free uniform had a positive impact on enrolment and retention.

Overall findings on Saturation of Rural Development Schemes

- PMAY – Rural was operational in all villages and coverage under the scheme has been almost 100%.
- *Jan Arogya Yojana* was found to be implemented in less number of villages
- Saturation of *Swachh Bharat Abhiyan* has reached in maximum number of villages and some of the villages declared as ODF Villages.
- MGNREGA is operational in all villages and saturation of scheme was observed in some villages. As other avenues of employments are available and more remunerative, demand for jobs under MGNREGA has been drastically reduced. Most of the activities related to rural housing, rural roads and other community infrastructure construction activities are accomplished, hence generation of additional activities has been a challenge under MGNREGA.

- PDS and *Antyodaya Yojana* were operational in all villages and coverage of beneficiaries as per entitlement is accomplished.
- PM-*Jan Dhan Yojana* has been implemented in 80% Villages and in 50% Villages Saturation of the scheme has been observed, as 100% of households are accessing banking services.
- PM-KISAN and KCC schemes related to agriculture sector are operational in all villages except one village. Saturation of the scheme as far as coverage of entitled farmers is concerned is almost achieved.
- *Ujjwala Yojana* has been implemented in most of the villages in some villages there has been 100% coverage.
- NRLM has been implemented in some of the villages and SHGs have been formed in some villages.
- Skill Development related schemes like PMKVY and DDU-GKY are having very poor presence in the villages.

Chapter-6

Spatial and Temporal Analysis of Service Delivery in Rural Areas

This section covers the spatial-temporal analysis of service delivery mechanisms across 160 villages of India for the period 2014-22. It includes assessment of a wide range of sectors covering health, education, banking, *panchayat* offices, Common Service Centres (CSC), etc. Various ground-level Field Study and Research Program (FSRP) reports from each village have been studied to develop this analysis.

6.1 School/Educational Institutions – Service Delivery

This Section of Service Delivery deals with progress of schools/ educational institutions observed is as follows:

The people of villages are well aware about the importance of education in some villages which reflected in the enrolment ratio in Primary school. Nearly almost all villages have 100 percent enrolment ratio in Primary school. Many villages only have Primary school and lack of facilities post primary school is hindrance to education delivery and only few villages have secondary and higher school.

Even when primary school is established in mostly all villages it suffers from problems like Shortage of teachers, poor availability of study materials, Non

availability of separate toilets for girls and boys, lack of other infrastructure like playground, laboratories etc.

It could be observed that lack of availability of higher educational institutions nearby villages is very rare or even at a nearby distance which proves very disadvantageous to the students. One of the main factors across the villages is decrease in enrolment ratio in higher classes of education and also increase in dropouts which may be attributed to following reasons: Connectivity problem and long distance location of school, Students engage in household responsibilities and employment in agriculture. In many cases, children are sent to work owing to economic conditions, In some cases, girl children are get done married which affect their education, Lack of basic facilities in school, Poor quality of education.

Thus it could be seen that even though availability of school at nearly 100% villages quality and outcomes are at stake and we could observe the intrusion of digital technology like smart classrooms etc.

6.2 Anganwadi Centres – Service Delivery

The findings on *Anganwadis* from 2014 to 2022 within the context of Healthcare Institutions reveal a significant transformation in their roles and responsibilities. Initially, *Anganwadi* centres primarily focused on providing food to women and children and raising awareness about immunization programs. For instance, in 2014, the *Anganwadi* centre in Tharuti Saur, Udham Singh Nagar,

Uttarakhand, distributed nourishing provisions such as black gram, *daliya*, *suji*, and *jaggery* to pregnant women and children under 5 years. *Anganwadi* workers collaborated with ASHA workers to enhance the nutritional well-being of expectant mothers and children. However, in recent times, the scope and purpose of *Anganwadi* Centres have evolved significantly.

However, these commendable advancements are not without challenges. Inadequate ventilation and lighting remain concerns, necessitating infrastructural improvements. In Sakarja Village, Madhya Pradesh, the absence of a government-run *Anganwadi* centre has led to five appointed workers managing makeshift setups, resulting in service gaps due to limited training. Chikliteja Village in Banswara District, Rajasthan, grapples with similar issues, including insufficient tools for monitoring child nutrition and subpar infrastructure. Nathapur, Shahjahanpur, UP, houses a school-based *Anganwadi* serving 27 children but lacking essential amenities.

In a 2019 report emanating from Thapli, Alirajpur, located within the Madhya Pradesh region, it was noted that Thapli village housed five *Anganwadi* centres strategically positioned in distinct pockets, or "phaliyas." Nonetheless, the efficacy of these centres was brought into question due to the presence of untrained personnel and a dearth of adequate infrastructure space, both of which impeded the development of the enrolled children.

Similarly, a 2019 report originating from Chandarwada-Banswara in the state of Rajasthan yielded several noteworthy observations. Firstly, irregular attendance among the children was observed, a matter of concern as it can significantly hinder the attainment of objectives set forth by the Integrated Child Development Services (ICDS) and other related programs.

Additionally, it was observed that the *Anganwadi* centre was situated within a confined room plagued by structural dampness, a circumstance that demands immediate attention due to its potential adverse effects on the fragile health of the children in care. Furthermore, while the staff exhibited attentiveness and courtesy during the visit, it was duly noted that such conduct may have been influenced by prior knowledge of the official visit by officer-Trainees to the village. Therefore, it is imperative that surprise inspections be conducted at regular intervals to maintain the staff's diligence. Lastly, it was observed that learning activities facilitated through play and the use of toys were being conducted, a practice that warrants greater standardization and encouragement.

6.3 Service Delivery in Health sector

The assessment of status of healthcare data of various villages across different states from 2014-2022 conveys similar findings such as lack of functional health centre in the village (most of them are located few kilometres away from it, that incurs additional cost like

transportation). Shortage of healthcare professionals like RMP, essential medicines adds up to the problem. However, there have been positive linkages that have helped to alleviate the intensity of the problems. Positive linkages have happened. ASHA acts as a facilitator especially for pregnant women and vaccination campaigns. They are a positive catalyst and link in the public healthcare system and most of the villagers seem satisfied with that. The high COVID vaccination rates, family planning counselling can be attributed to their tireless efforts. They have also helped improve general awareness. For instance, Satto in Jaisalmer has low rates of anaemia as bajra is the staple diet and ASHA workers have helped educate people about it.

The analysis of reports of Dawan, Bhojpur (Bihar) in 2016 & 2022 show the progress made in healthcare delivery. While in 2016, issues like lack of a sub centre in village & infrequent visits by ASHA were a concern, in 2022, active work by ASHA and anganwadis have ensured that gaps are filled. SHG Sangini manufactures sanitary napkins locally and along with ASHA has helped to raise menstrual awareness. Janani Suraksha Yojana has been instrumental in increasing rate of institutional delivery to >90%.

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Government schemes like *Janani Surakshit Yojana* have been influential in increasing the rates of institutional delivery. For instance, Shivrajpur in West Champaran, institutional delivery increased to >60% and reduced MMR, IMR significantly which was initially low.

Due to the persistent efforts of the government through schemes like *POSHAN Abhiyan*, health campaigns, people's perception about health has changed from disease to overall wellbeing. This was evident from the high rates of COVID vaccination (close to 100%).

The way forward for the health sector is to strengthen the weak links like non-functional setup for which a comprehensive approach is needed and to train community health providers in order to enable a hierarchical health setup. Further, awareness remains a priority. The *Amrit Kaal* holds a bright prospect for further improvements in health sector with the introduction of novel approaches like *Ayushman Bharat*, emphasis on digital mission and use of AI and research through '*Atma-Nirbharta*'. With the given improvements witnessed, it brings an optimistic overview about the changes that can be seen in the upcoming years where the concept of health transforms to a holistic perspective.

6.4 Evolution of *Panchayati Raj Institutions*

The *Panchayati Raj Institutions* (PRIs) in India have undergone significant changes and challenges from 2014 to 2022. This report is based on a comprehensive analysis of Field Study and Research Program (FSRP) village visit reports, which shed light on the evolving dynamics within PRIs. Despite certain improvements, persistent issues continue to affect the functioning of PRIs, including the prevalence of proxy leadership, minimal women's representation, low awareness among citizens about their rights, and domination by certain caste groups.

Proxy Leadership: *Sarpanch-Pati* and *Sarpanch-Devar*

One recurring issue across villages is the phenomenon of "*Sarpanch-Pati*" and, in some cases, "*Sarpanch-Devar*." This proxy leadership, where husbands or male family members exert undue influence over elected female *Sarpanches*, remains a pervasive problem. Approximately 70-80% of villages reported instances of this phenomenon, undermining the spirit of women's empowerment through PRIs.

Limited Women's Participation

Women's participation in PRIs remains minimal, reflecting a persistent gender imbalance in decision-making bodies. This gender gap hinders the full

realization of the potential of PRIs as inclusive institutions.

Low Citizen Awareness

A concerning trend observed in these reports is the low level of awareness among citizens about their rights and the functioning of PRIs. This lack of awareness reduces citizen engagement, hindering the role of PRIs in maintaining accountability and transparency in governance.

Caste Dominance

Certain caste groups continue to dominate PRIs in several regions, restricting equitable participation and decision-making. This issue calls for targeted efforts to promote inclusivity within PRIs.

Best Practices in *Panchayati Raj Institutions*

In the Sirohi-Naya Sanwara region of Rajasthan (2016), the prevalence of corruption within PRIs reduced notably after the implementation of Direct Benefit Transfer (DBT) and the E-Mitra system. These technological innovations enhanced transparency and accountability.

The E-Mitra system streamlined various administrative tasks, such as photo and certificate filling and record keeping, making PRI operations more efficient.

Moreover, it facilitated information dissemination regarding on-going projects, enhancing transparency.

The implementation of constitutional reservations for different categories in the Amroha-Barsabad region in 2015 contributed to more inclusive representation within PRIs.

6.5 Public Distribution System's Service Delivery

The Public Distribution System (PDS) has been a major source of poverty alleviation at village level. The network of Fair Price Shops (FPS) across India has helped supply food grains and even some items of daily needs at affordable prices.

Positive aspects of PDS

The system is efficient and functioning well in almost all the villages studied. As incomes from agriculture haven't grown at rapid pace so food grain availability under PDS remains a major source of nutrition. People are in most cases, satisfied with the functioning of PDS which indicates high trust levels. Provision of kerosene, sugar etc. at discounted prices in many of the villages. BPL and *Antyodaya* families are covered thus contributing to welfare of lowermost rungs of socio-economic ladder.

Some Issues

Due to diverse food habits of people e.g. Higher millet consumption, sometimes they tend to sell rice/ wheat in

open markets after buying them at subsidised rates from FPS. Post, Aadhaar and PoS introduction there have been cases where food grains were denied due to mismatch in fingerprints. Corruption was observed in a couple of villages.

A fair price shop is present in Ranatanapura provides foodgrains at discounted price. Wheat, rice, millets, kerosene etc. are available products. People are satisfied with functioning of PDS in this area. This is definitely helping in providing affordable food and nutrition.

6.6 Agricultural Markets and Mandis

Agricultural markets are the basic requisite for agriculture to give value to the farmers. In the 162 villages we studied, these markets are present in form of *haats* (daily/ weekly/ monthly), APMC *mandis* or Primary Agricultural Cooperative Societies (PACS). The distribution and functionality of these markets demonstrate great variation across geographies. While in districts like Champawat (Uttarakhand) the market value chain is poorly developed, in others like Banswara (Rajasthan) the APMC *Mandis* are located within 5-10 km radii of villages.

Districts like West Champaran and Bhojpur in Bihar have functional set-up of agricultural cooperative societies which help farmers in selling their produce. In 2016, farmers in Bhojpur had to transport their produce to Patna and Arrah. The situation changed and by 2021,

PACS were helping in marketing farmers' produce. Under cooperative federations, farmers are able to get Fair and Remunerative prices (FRP) for cane farmers.

Implementation of e-nam

This has been sub-optimal in the villages and districts studied. In some cases like Sirohi (Rajasthan), farmers lacked the knowledge about e-nam. While in others, the large farmers had some knowledge yet there was lack of proper ICT enabled system for e-nam functioning.

Weekly local markets

These are the traditionally preferred means of marketing of produce like local vegetables, wheat, rice, etc. The pricing is based on demand and supply and behaviourally these are the most trusted by villagers among all the possible market choices because of element of familiarity between the sellers and buyers. Overall, agricultural markets in villages need to be studied at a granular level to enable them to be developed into well-functioning means of increasing incomes of farmers.

6.7 Best Practices in Digital India

Suggestion was made for the digitization of land records, which was under progress in the year 2022, in Uchaligoth Village, Champawat district of Uttarakhand.

A unique mention of Remittances from Kuwait in the Village Banswara, Naharapura (Rajasthan) is found, but nothing related to fintech or digital banking is provided. However, it's true to assume the presence of such technology.

An overall absence of Digital Infra, Digital Awareness and Literacy marks the Indian Rural Landscape, at least in the given reports.

A unique mention of “Unnayan Banka” Innovation Education using Technology Banka, an Education Sector Scheme with the goal of “Mera Mobile- Mera Vidyalaya” and “Anywhere-Anytime”. This is a successful model in Bihar which has been suggested for revolutionising the Alirajpur Village in the education sector.

6.8 Other Institutions such as banks, post offices, SHGs, etc.

The period spanning 2014 to 2022 has witnessed a remarkable enhancement in the accessibility and availability of vital institutions such as Banks, Post Offices, and the efficacy of Self-Help Groups (SHGs).

Illustrating this transformation is the case of Sakarja, Madhya Pradesh, which grapples with a significant dearth of essential services. The absence of banks and post offices in the village compels residents to endure a 25-kilometer trek to Mathwad for their banking and postal requirements, severely impeding financial access.

Moreover, Sakarja lacks provisions for agricultural inputs and crop sales, further necessitating the arduous journey to Mathwad for soybean sales and essential agricultural supplies like seeds and fertilizers, stunting agricultural progress and convenience for the villagers.

In contrast, Chikliteja, situated in Banswara, Rajasthan, boasts a single post office, with local residents operating *Kirana* shops and acting as banking correspondents. Nearly every household maintains bank accounts, primarily for direct benefit transfers. Nathapur, Uttar Pradesh, presents an improved financial access scenario, while Champawat, Uttarakhand, grapples with low savings despite widespread bank account access due to the absence of a nearby bank and public transport.

SHGs were encountered with challenges related to paperwork, member availability, and fraud by private companies, leading to trust issues. Enhanced support from government officials, particularly at the *Panchayati Raj Institution* (PRI) level, could ameliorate these issues.

In the same village, the Post Office serves as a critical communication hub for local residents, facilitated by the diligent efforts of the postmaster and postmen who manage the office. Its services extend to nearby villages as well. Additionally, the successful implementation of the *Pradhan Mantri Jan Dhan Yojana* has fostered financial inclusion among the populace, with the majority of farmers in the area now holding bank accounts.

Post Offices have played an instrumental role in advancing the cause of financial inclusion, resulting in near-saturation of the scheme since 2014. Notably, a staggering 88% of surveyed villagers during the reference years possessed bank accounts. Although physical banks are situated at some distance from these villages, the presence of banking correspondents has substantially reduced the gap between villagers and banking services.

6.9 Conclusion

The spatial and temporal study (overall and village level) reveals that the infrastructural gaps have been continuously plugged through targeted government interventions in the form of flagship schemes and other local efforts. In general, there is increasing trend of infrastructure achievement over the period from 2014 to 2022. This means that there is enough thrust on providing basic amenities at the village level.

Nevertheless, the usage of the generated infrastructure should also be studied to understand if the intended outcomes are met on a sustainable basis. For example, there is 100% electrification at the village level, but reliable 24X7 power supply is not available. This provides further scope of improvement in the spatial and temporal study of infrastructure at village level.

Going forward, the focus should be not only on creation of newer assets, but also making sure that older assets

continue to function well through adequate investment on maintenance.

- Some of the basic amenities like public toilets and toilets even in individual houses were not available in 2014, whereas in 2021 toilet facilities were made available in all villages.
- There had been an improvement in availability of PDS shops over the years in villages between the years 2014 and 2021.
- Access to financial services in terms of availability of banking services had improved in the year 2021 as compared to 2014.
- Road connective status found to be universalized i.e. all villages are connected with all-weather approach roads, the status has remained same between 2014 and 2021, however, in 2021 the roads within the village connecting different hamlets has improved over the years.
- Drinking water facilities were available through public tube-wells and private tube-wells in all villages in 2014, whereas in 2021 there has been improvement in drinking water supply under *Jal Jeevan Mission*. In some villages and water tanks with bore-well were constructed.

From the spatial and temporal analyses it has been emerged that level of service delivery has improved vastly as evident from increase in participation of beneficiaries across all sectors. The efficiency in service delivery has also risen due to technological interventions like Direct Benefit Transfer and Digital India. This has

led to reduced leakages and lower exclusion and inclusion errors.

It also needs to be borne in mind that challenges such as limited digital infrastructure, shortage of health personnel and equipment as well as lower awareness among villagers of government schemes are impeding the achievement of saturation of the government schemes.

Going forward, there is a need to put thrust on greater public participation through public ownership as well as convergence and dovetailing of government schemes at various levels to achieve the desired level of service delivery across the length and breadth of the country.

Chapter-7

Tribal Development in India

7.1 Tribes in India – A Macro Picture

The notion of ‘Tribe’ as a term could be traced to the European colonial era wherein administrative convenience was prioritised, necessitating the creation of categories. Article 366 and Article 342 of the Constitution of India have defined ‘Scheduled Tribe’. On an anthropological parlance, a tribe could be defined through the common threads of territory, language, culture, and name and as pointed out by Ranjan (2003), tribal communities have undergone integration, assimilation, and transition. Tribal economies have transitioned to settled agriculture, as noted by Singh (2002), leading to issues such as commercialization of agriculture, alienation, displacement, and migration. Post-independence demographic studies including those by Xaxa (2003), Maharatna (2011), Firdos (2005), have pointed out that the twin processes of modernisation and development have altered the tribal arena though not uniformly.

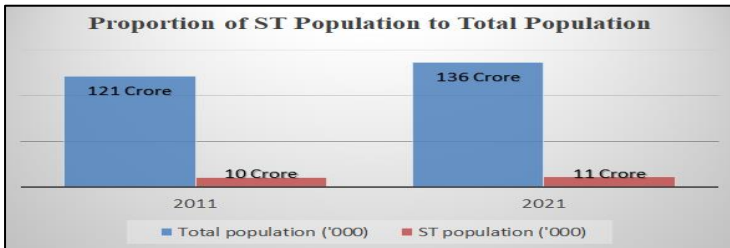


Figure 1: Proportion of ST population to Total population

7.1.1 Population trends among Tribes in India:

The population of Scheduled Tribes (STs) in India is expected to rise by over 12% of the previous Census (2011) data of 8.6% of the total population and roughly stands at 11 crores as of 2021. Regionally, the central and western areas have high concentration of tribals in India. The child sex ratio among tribal communities had seen a decline from 972 (Census, 2000) to 957 (Census, 2011). Demographically, the female-male sex ratio among tribal population is more favourable vis-à-vis general population, with 990 females per 1000 males compared to the national average is 933 per 1000 males. The distribution of tribal population among Urban-Rural areas is also undergoing a major shift indicating patterns of migration and highlights the need to initiate schemes for tribal population in urban areas.

1. Budgetary allocation for Ministry of Tribal Affairs

To augment the welfare of the Scheduled Tribes, multiple assistance programmes and schemes are envisaged primarily through the channels of government (both Central and state) as well as through non-state actors like NGOs. The Ministry of Tribal Affairs (MoTA), Government of India acts as the pivot to channelise these efforts through tailor-made schemes and critical interventions.

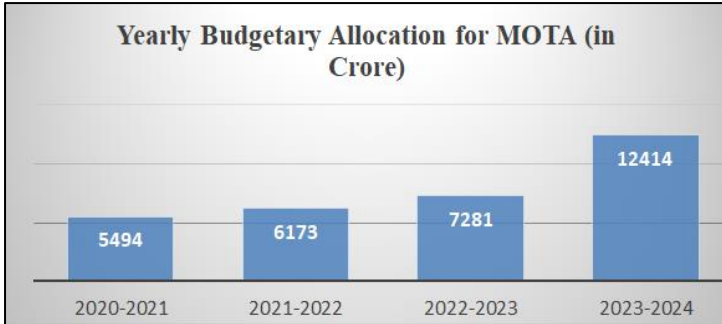


Figure 2: Budget of Ministry of Tribal Affairs

The budgetary allocation for Ministry of Tribal Affairs has increased by 125% from 2020 to 2023 due to implementation of schemes/ programmes under Particularly Vulnerable Tribal Groups Development Mission, National Sickle Cell Elimination Mission, and Eklavya Model Residential Schools (PIB, 2023). In addition to this, the Development Action Plan for Scheduled Tribes (DAPST) requires nearly 41 Central Ministry/Departments to allocate funds in the range of 4.3% to 17.5% of their total scheme allocation for tribal development. The state governments are also allotted Scheduled Tribe Component yearly. 17 schemes are implemented by MoTA in FY 2023-24 with an outlay of Rs. 12386 crores. Impactful interventions including the *Pradhan Mantri Van Dhan Yojana* (PMVDY) or *Van Dhan Vikas Yojana* (VDVY) implemented by MoTA have been crucial. For instance, the PMVDY aims to augment the livelihood of tribal communities by developing and sustaining value chains and incentivising income-generating and skill training activities. Provision of market linkages and the formation of *Van Dhan Vikas*

Kendras at the village level, *Van Dhan Vikas Sanrakshan Samitis* at the cluster level, and *Van Dhan Vikas Samuh* at the district level have the objective of improving the quality of livelihood.

An analysis of the trend of budget outlay from 2017-18 to 2022-23 illustrates an increase. Though the fund disbursement to the proportion of total budget of the Ministry has declined, there has been an increased spending on central sector schemes. About 80% the budget outlay is distributed to states under proviso to Article 275(1) of the Constitution, Special Central Assistance to Tribal Sub-Scheme (SCA to TSS) and Post-Matric Scholarship as highlighted in Figure 3.

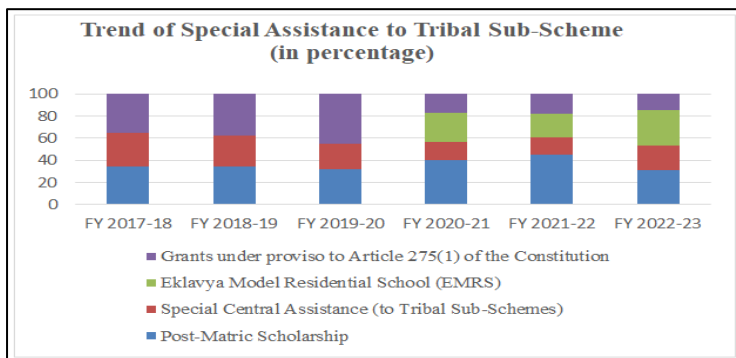


Figure 3: Trend of Special Assistance to Tribal Sub-Scheme
Source: MoTA website

7.2.1 State-wise allocation of Scheduled Tribe Component and Status of Utilisation Certificates:

Nearly 44 % of Utilisation Certificates (UCs) have been pending emphasising the need to expedite submission of

UCs by State governments. Over the last three years, nearly 30% of the Utilisation Certificates are pending from the State Governments, as illustrated in Figure 4.

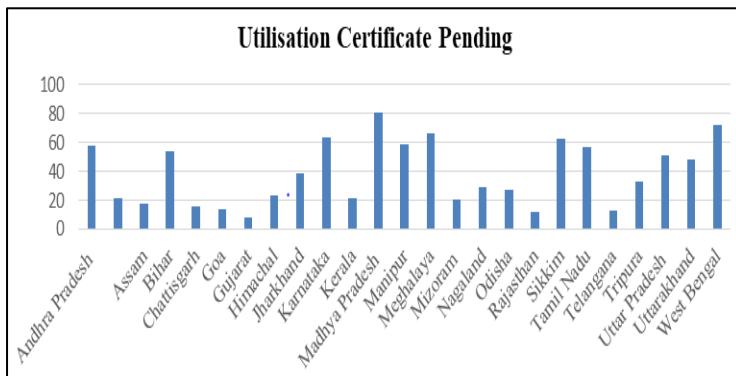


Figure 4: Percentage of pending Utilisation Certificates in States from 2020-2023

To ensure targeted enforceability and utilisation of the funds along with tracking of the outcomes, new models such as development impact bonds could be explored.

7.2.2 Schedule Tribe Component (STC)

Initiated in 1974-75, the Scheduled Tribe Component (STC) has been earmarked for 41 Ministries/ Departments. Additionally, State governments are to earmark TSP funds proportionally to ST population. From FY 2018-19, the monitoring of STC plan has been done by MoTA and the monitoring of fund allocation/ release is done through Scheduled Tribe Component Management Information System (STCMIS). The patterns of change in Ministry-wise percentage of STC

to total component over the years have been highlighted through Figure 5 and Figure 6.

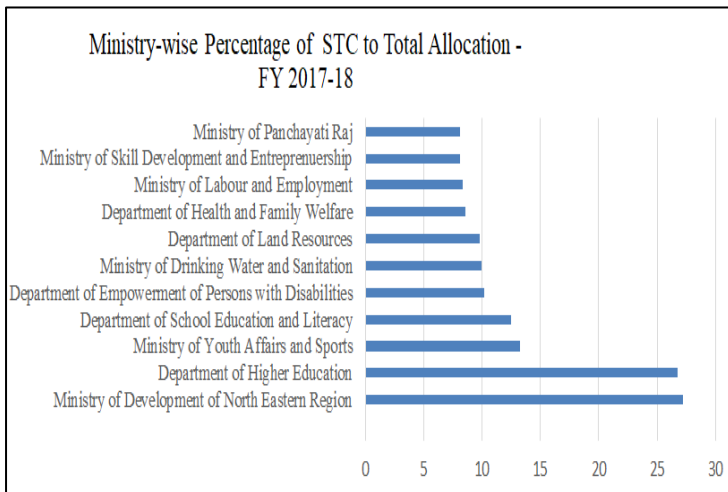


Figure 5: Ministry-wise percentage of STC in 2017-18

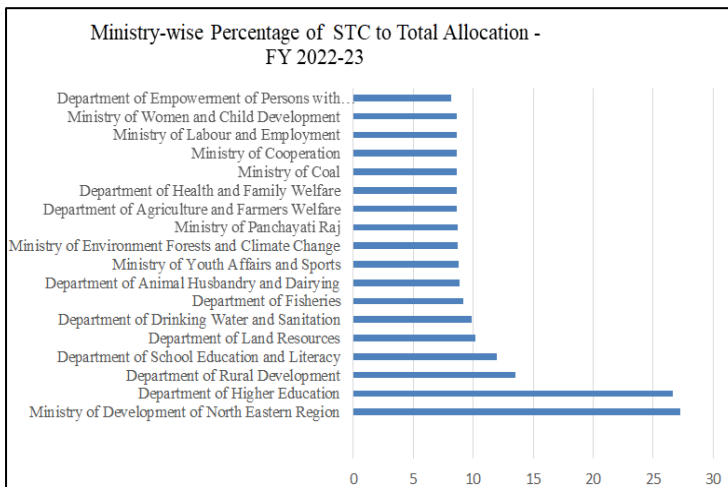


Figure 6: Ministry-wise percentage of STC in 2022-23

It could be comprehended that there has been incremental progress toward the earmarking and utilisation of STC though there are certain obstacles in identifying beneficiaries in allocation of STC.

7.3. Eklavya Model Residential Schools

Eklavya Model Residential Schools (EMRS) were established in 1997-98 with the primary objective of providing quality education to Scheduled Tribe (ST) children in their respective districts, thereby improving their access to higher-quality education and enhancing their employment prospects. These schools offer education from Class VI to XII and have a capacity of 480 students each. The government provided grants to the state governments for both the construction and recurring expenses of these schools under Article 275(1) of the Constitution. In 2018-19, a significant expansion of EMRS was announced, aiming to open a school in every block with over 50% ST population and at least 20,000 tribal residents according to the 2011 census. This expansion plan led to the approval of 452 new schools under the revamped scheme. As of the latest available data in 2022-23, there are 694 sanctioned EMRS schools, of which 401 are functional, distributed across various states in India.

7.3.1 National-Level Statistics

At the national level, there is evidence of significant progress in the implementation of EMRS. As of

February 2023, out of the 694 sanctioned EMRS schools, 57% are functional, reflecting the government's commitment to expanding educational opportunities for tribal children. In terms of enrolment, EMRS has witnessed a total enrolment of 113275 students since its inception, with roughly equal numbers of male (56107) and female (57168) students.

7.3.2 State-Level Statistics

State-level data reveals interesting insights into the distribution of EMRS schools and their enrolment. Madhya Pradesh, despite having the highest tribal population, has not only the maximum number of functional schools but also the highest enrolment, with a majority of female students. This suggests that EMRS has been particularly successful in areas with significant tribal populations. However, a study by Arun and Kumar in June 2020 contradicts this, reporting that Madhya Pradesh had the most functional schools at that time. In contrast, Jharkhand has the highest number of non-functional schools, indicating a need for further attention and investment to ensure the effective operation of EMRS in the state. Notably, Sikkim stands out in the northeastern region, with all four of its EMRS schools functioning well.

7.3.3 District-Level Statistics

Looking at district-level data, the distribution of functional and non-functional EMRS schools varies widely. For instance, Andhra Pradesh has districts with

both functional and non-functional schools, while Arunachal Pradesh has all its districts reporting non-functional schools. Chhattisgarh, with the highest number of functional EMRS schools at the state level, maintains this trend at the district level, with several districts having functional schools. Gujarat exhibits a mix of functional and non-functional schools across its districts.

7.3.4 Budgetary Allocation and Utilization

The budget allocation for EMRS has witnessed a significant increase in the three years leading up to 2015, rising from around Rs. 400 crores to over Rs. 1000 crores. This boost in funding indicates the government's commitment to the scheme's expansion and improvement. Additionally, 37 new EMRS schools were sanctioned in 11 states during 2010-11. In the year 2022-23, the foundation stone was laid for 23 new EMRS schools across seven states, with the highest number in Nagaland, followed by Orissa, Chhattisgarh, and others. Furthermore, 211 existing EMRS schools have been identified for upgrading.

7.3.5 Recommendations

As a way forward, it is essential to consider several recommendations to enhance the effectiveness of EMRS:

1. **Increase Student Intake:** Consider increasing the student intake from the current 480 in proportion to the population of the district to

accommodate more tribal children in need of quality education.

2. **Rationalize Entrance Tests:** Rationalize the entrance tests for EMRS to make them more accessible and inclusive, thereby contributing to the universalization of secondary education for tribal students.
3. **Local Language Inclusion:** Incorporate local languages into the EMRS curriculum to ensure that students can access education in their mother tongues, enhancing their learning experience and preserving their cultural heritage.

Eklavya Model Residential Schools (EMRS) play a crucial role in providing quality education to Scheduled Tribe (ST) children, with a focus on expanding their reach and improving enrolment. The data presented here showcases the growth and progress of EMRS, along with budgetary support and allocation. While challenges remain, especially in states with non-functional schools, there is a clear commitment to improving tribal education through EMRS. The recommendations provided aim to further enhance the impact of these schools, ensuring that they continue to serve as catalysts for socio-economic development among tribal communities in India.

74. Education

In 2017-18, the STC component achieved its peak release percentage, notably with *Navodaya Vidyalaya Samiti* (NVS) and *Rashtriya Madhyamik Shiksha*

Abhiyan schemes surpassing 100%. However, by 2021-22, this component hit its lowest point, as the number of schemes dropped from 13 to 8. Nevertheless, *Kendriya Vidyalaya Sangathan* (KVS), National Means cum Merit Scholarship Scheme, and *Navodaya Vidyalaya Samiti* maintained a 100% release rate. *Sarva Shiksha Abhiyan* and *Rashtriya Madhyamik Shiksha Abhiyan* merged into *Samagra Shiksha* in 2018 and consistently achieved over 90% release, except for a dip to 81% in 2021-22, rebounding to 93% in 2022-23.

This indicates a decline in STC allocation in education since 2017. While 2022-23 showed improvement, the sustainability of this trend is uncertain. Changes and scheme mergers in recent years have affected the STC component, as seen in 2021. STC funds released fall short of allocations, emphasizing the need for prompt release to ensure targeted education access in tribal areas.

7.5. Implementation of Forest Rights Act, 2006

The Forest Rights Act (FRA), enacted in 2006, represents a significant milestone in recognizing the rights of forest-dwelling tribal communities and traditional forest dwellers in India. These communities relied on forests for their livelihoods, habitation, and socio-cultural needs, with a wealth of traditional knowledge about forest conservation.

The FRA covers a broad spectrum of rights, encompassing individual rights such as self-cultivation and habitation, as well as community rights like grazing, fishing, access to

water bodies, habitat rights for Particularly Vulnerable Tribal Groups (PVTGs), and access to biodiversity. It also recognizes traditional customary rights and empowers communities to protect, regenerate, conserve, and manage forest resources for sustainable use. Furthermore, the Act facilitates the allocation of forest land for essential developmental purposes, ensuring basic infrastructure for these communities.

The FRA also places the responsibility of conserving biodiversity, wildlife, forests, catchment areas, water sources, and ecologically sensitive areas on the *Gram Sabha* and rights holders. This empowers tribal populations to have a decisive role in local policies and schemes affecting their lives. In conjunction with the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Settlement Act of 2013, the FRA safeguards tribal populations from eviction without proper rehabilitation and settlement.

In essence, the FRA empowers forest dwellers to continue their traditional forest resource utilization, safeguards them from unlawful evictions, and provides access to essential development facilities such as education, health, nutrition, and infrastructure. Its key objectives are to rectify historical injustices, secure land tenure, livelihoods, and food security for forest dwelling STs and traditional forest dwellers, and bolster forest conservation efforts through the active involvement of rights holders in sustainable resource management and ecological balance.

7.5.1 FRA Title Status

As of now, the Forest Rights Act (FRA) has received a total of 4545000 claims, including 4364312 individual forest rights claims and 180574 community forest rights claims. Out of these, 2308000 titles have been distributed, with 2199012 for individual forest rights (IFR) and 108700 for community forest rights (CFR). Notably, approximately 50% of IFR claims and 60% of CFR claims result in titles, indicating that collective ownership tends to be more successful, possibly due to factors like financial resources, awareness, political support, and community influence. Disparities in claim distribution across states can be attributed to factors such as the absence of land records, local institutions, political will, and the tradition of collective landholding among tribals. The FRA Claim Status as of 2023 has been depicted through Figure 7.

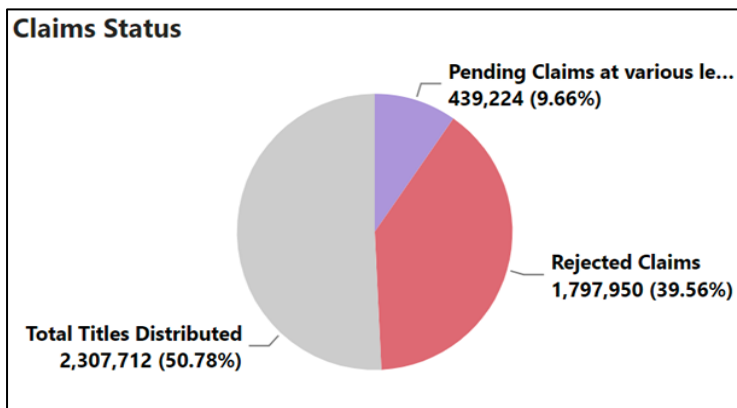


Figure 7: FRA Claim Status in 2023

In the special case of Assam, there are various factors at play. In Assam's Karbi Anglong district, low population density (around 1000 per 10 sqkm) reduces concerns about government recognition of FRA titles due to ample land availability. The presence of Gaon Boora, a local tribal head, replaces formal village institutions, making people hesitant to seek government claims under FRA. Gaon Boora handles claims informally and efficiently. Applications sent through the formal process encounter delays and bureaucracy, discouraging people from pursuing FRA titles.

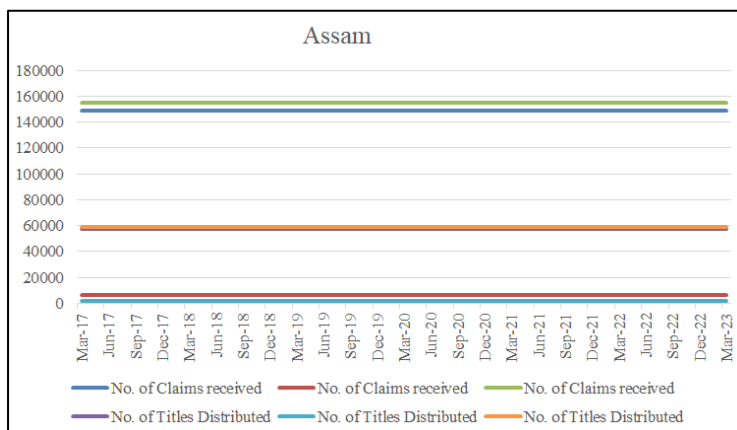


Figure 8: FRA Status in Assam

7.6. Status of healthcare related schemes among Scheduled Tribes in India

India's Tribal Communities confront a triple burden of diseases including communicable ones like Tuberculosis and a rise in non-communicable ones like Cancer and Hypertension. To combat this, the Ministry of Health

and Family Welfare has designated a Scheduled Tribe Component (STC) in their schemes, solely for healthcare development of Scheduled Tribes. Although STC fund allocations have risen since 2017-18, there was a reduction post-2021.

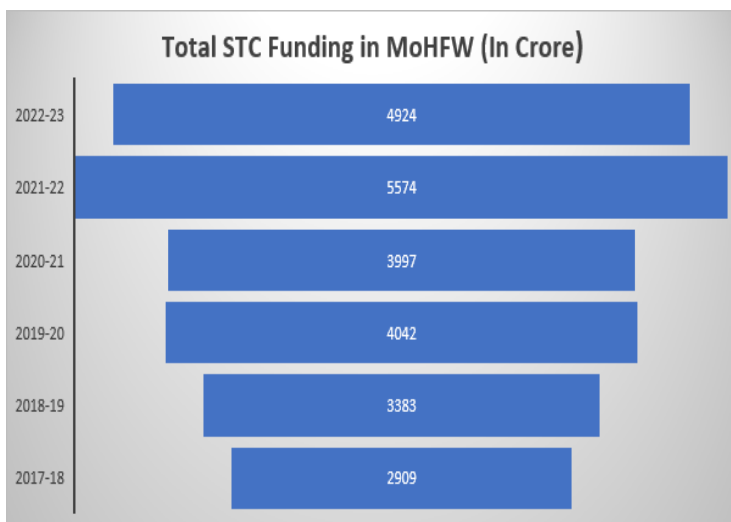


Figure 9: Total STC Funding in MoHFW

Source: MoTA Website

In 2021-22, National Rural Health Mission received the highest allocation, nearly Rs. 3000 crores, while in 2022-23, about Rs. 2668 crores was allocated to Flexible Pool for RCH & Health System Strengthening, National Health Programme, and National Urban Health Mission. However, inconsistencies in fund release are evident; in 2022-23, only 50% of funds were released for ‘Human Resources for Health and Medical Education’. *Ayushman Bharat Scheme* utilized only 69% of its STC

allocation in 2021-22 and 33% in 2019-20. Concerns are heightened with the state of women and child health among Scheduled Tribes. Despite improved immunization, infant deaths are alarming, with 12,000 in Madhya Pradesh alone. Nationwide, only 14% of ST women received full antenatal care, and merely 55% accessed institutional birth facilities, with state disparities accentuating the crisis.

These findings underline an urgent need for refined, targeted strategies and enhanced, efficient implementation of health schemes to address the critical healthcare circumstances confronting the Scheduled Tribes, especially considering the escalating urban ST population.

7.7. Agriculture Sector

The Department of Agriculture has streamlined its schemes, reducing them from 24 to 8, with an increased budget allocation, aiming for improved program consolidation and better outcomes. Notably, the funding for the Scheduled Tribe Component (STC) in agriculture has shown significant growth in recent years, particularly from FY 2019-20 onwards, primarily due to the introduction of the *Pradhan Mantri Kisan Samman Nidhi* (PM-KISAN) *Yojana*. This Direct Benefit Transfer (DBT) scheme offers Rs. 6000 annually to each farmer, and it has demonstrated efficient fund utilization, exceeding 99%. Similar trends are observed in the Department of Rural Development and the Department of Drinking Water and Sanitation, with substantial STC

component increases attributed to earmarked programs for tribal areas and initiatives like the *Jal Jeevan Mission*.

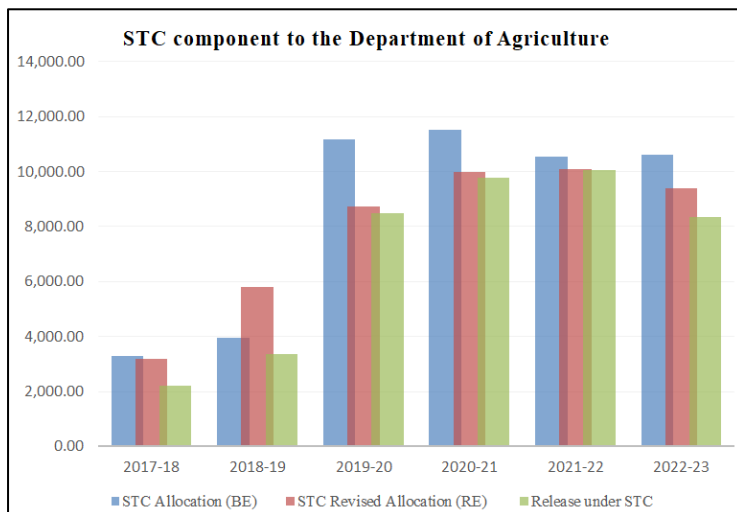


Figure 10: STC in Department of Agriculture

Conclusion

Impactful and impressive endeavours have been made to ameliorate India's tribal communities. With a projected population increase and urban migration, tailored initiatives are vital to supplement income and to improve access to critical facilities. With concerted efforts to close the gaps in implementation and to address the issue of pendency of utilisation certificates, the interventions could be optimised. Analysis of EMRS schemes shows a near full utilisation of funds by the scheme and high enrolment rates. Additionally, EMRS could also be

extended for higher education to enhance inclusion and access. In the domain of forest rights and the implementation of Forest Rights Act, there are certain impediments emanating from land titles and proof of land records. Along with commendable progress in the healthcare sector, there are high mortality rates and low reproductive health which need to be addressed. The introduction of PM-KISAN has boosted targeted identification of the beneficiaries. Hence, there has been a pertinent and perceptible transformation in the lives of tribal communities in India due to critical public intervention and precise schemes that are tailor-made and relevant.