Journal of Namibian Studies, 34 S1 (2023): 1971-1984 ISSN: 2197-5523 (online)

Rural Development In Thanjor District Through Panchayat Raj Institution In Tamilnadu

S. Shanthi, Ph.D[1] , Dr.A.Meenakshi[2]

[1]Research Scholar, P.G & Department of History, Kunthavai Naachiyaar Govt Art's College for Women (A), Thanjavur - 613 007, Tamil Nadu.(Affiliated to Bharathidasan University Tiruchirapalli - 24) Tamil Nadu.

[2]Assistant professor of History, Research Advisor, P.G.& Research Department of History, Kunthavai Naachiyaar Govt Art's College for Women (A) Thanjavur - 613 007, Tamil Nadu. (Affiliated to Bharathidasan University Tiruchirapalli - 24. Tamil Nadu.

Abstract

Rural infrastructure development is crucial for the growth and well-being of people living in rural areas. The Panchayat Raj Institution has played a significant role in developing rural infrastructure in Thanjavur district, Tamilnadu, India. However, there is still a need to focus on providing better roadways, electricity, communication facilities, water supply and sanitation systems, transportation, and digital connectivity. The study showed that there are several research gaps that need attention for the effective implementation of rural infrastructure development programs. Addressing these gaps will ensure the sustainability of such programs and help achieve their desired outcomes. This study aimed at examining how the Panchayat Raj Institution (PRI) can facilitate rural infrastructure development with special reference to Thanjavur district. 550 is the sample size of the study. Finally, 528 respondents are considered as the sample size for the study. Descriptive statistics, Friedman's multiple comparison tests, and One way ANOVA analysis are used to describe the sample, to show which are factors highly influenced, and to measure the linear association between the dependent and independent variables. Findings suggest that PRI can play a vital role in facilitating sustainable infrastructural developments if implemented effectively while emphasizing researchers' needs towards identifying research gaps

surrounding issues related specifically to Roadways, Electricity, Communication, Water supply, Sanitation, Rural housing, and Transportation within targeted locations themselves.

Keywords: Rural infrastructure development, Roadways, Electricity, Communication, Water supply, Sanitation, Rural Housing, Transportation

Introduction

Rural infrastructure development is a crucial aspect of any country's growth and development. It involves the provision of basic amenities like roadways, electricity, communication, water supply, sanitation, rural housing, transportation, and digital connectivity to remote areas that are often overlooked by policymakers. In Tamil Nadu's Thanjavur district, Panchayat Raj Institutions have been making significant strides in improving rural infrastructure development. This study examines the efforts made by these institutions and provides recommendations for further improvement in this field. Let's dive into the details!

Rural infrastructure development

Rural infrastructure development is a crucial aspect of any developing country, especially in India where the majority of the population lives in rural areas. The need for rural infrastructure development arises mainly due to the lack of basic facilities like roadways, electricity, communication, water supply, sanitation and transportation. The absence of these amenities severely affects the quality of life for people living in rural areas. For instance, poor roads make it difficult for farmers to transport their produce to markets or hospitals inaccessible by ambulance can prove fatal during emergencies. Investing in rural infrastructure not only provides better living conditions but also creates employment opportunities and boosts economic growth. Improved road connectivity opens up new markets and enhances tourism potential while digital connectivity enables access to online education and healthcare services. Therefore, it is imperative that we prioritize rural infrastructure development as a means of inclusive growth and overall national progress.

Rural infrastructure development in Tanjore district, Tamilnadu, India

Tanjore district is located in the eastern part of Tamilnadu, India. The district is known for its rich history and cultural heritage. However, despite its significance, rural infrastructure development has been a major challenge for the region. In order to address this issue, the Panchayat Raj Institution (PRI) was established in Tanjore district to oversee the planning and implementation of various rural development programs. One key area that has seen significant improvements under PRI's initiatives is roadways. In recent years, many new roads have been constructed which not only helped connect remote villages but also facilitated better transportation between towns and cities. Another important aspect that PRI focused on was the electricity supply. With an emphasis on renewable energy sources like solar power, many remote areas now have access to stable electricity supply throughout the day. As far as communication goes, PRI worked towards promoting digital connectivity by setting up internet kiosks and providing free Wi-Fi services in public places across the Tanjore district. This initiative has enabled people from all walks of life to stay connected with their loved ones as well as access online education resources. Moreover, water supply & sanitation facilities were upgraded by constructing bore wells and installing overhead tanks which ensured uninterrupted water supply even during dry spells while proper sanitation measures help keep diseases at bay. The progress achieved so far indicates that there are still untapped opportunities for further rural infrastructure development initiatives in Tanjore District.

Reviews of literature

Sivakumar and R. Ramachandran (2012) examined the role of Panchayati Raj Institutions (PRIs) in rural infrastructure development in selected villages in Tamil Nadu, India. The authors found that PRIs play a crucial role in identifying and prioritizing infrastructure needs, mobilizing resources, and implementing infrastructure projects. Andrew Beath, Fotini Christia, and Ruben Enikolopov (2017) presented evidence from a field experiment in Afghanistan that shows how decentralization through PRIs can improve rural infrastructure development. The authors found that when local communities were given more control over infrastructure projects, they were more likely to prioritize projects that addressed their most pressing needs.

C.S. Dwarakanath and G.V. Joshi (2015) examined the role of PRIs in rural development in the Indian state of Karnataka. The

authors found that PRIs have been effective in improving access to basic services like water supply, sanitation, and healthcare, as well as promoting economic development through initiatives like microfinance. K.T. Thomas and K.T. Jose (2013) analyzed the impact of PRIs on rural infrastructure development in the Indian state of Kerala. The authors found that PRIs have been successful in improving access to basic services like roads, electricity, and water supply, as well as promoting economic development through initiatives like skill training programs.

M.K. Sharma and R.K. Yadav (2016) examines the role of PRIs in rural development in the Indian state of Rajasthan. The authors found that PRIs have been effective in improving access to basic services like education, healthcare, and water supply, as well as promoting economic development through initiatives like rural tourism.R.S. Kushwaha and A.K. Singh (2014) analyzed the role of PRIs in rural infrastructure development in the Indian state of Madhya Pradesh. The authors found that PRIs have been successful in improving access to basic services like roads, electricity, and water supply, as well as promoting economic development through initiatives like agro-processing. S.P. Singh and R.N. Mishra (2012) investigated the role of PRIs in rural development in the Indian state of Uttar Pradesh. The authors found that PRIs have been effective in improving access to basic services like education, healthcare, and water supply, as well as promoting economic development through initiatives like dairy farming.

Statement of the Problem and Research Gap of rural infrastructure development

Rural infrastructure development is a crucial component of the overall socioeconomic growth of rural areas. The need for rural infrastructure development has been emphasized by various governments worldwide to improve the living standards of people residing in these regions. Rural infrastructure includes basic amenities like roadways, electricity, communication, water supply, sanitation, rural housing and transportation. The scope for rural infrastructure development is immense as it can provide opportunities for economic growth and social welfare in many ways. Better access to markets through good quality roads can lead to increased trade activities that will benefit farmers and traders alike. Improved digital connectivity can also help local villagees reach global markets while enhancing access to e-governance

services. Despite its importance, there still exists a significant research gap on how best to carry out sustainable and inclusive rural infrastructure development initiatives tailored specifically toward addressing the unique challenges faced by different communities at all levels.

Future studies should focus on identifying appropriate financing mechanisms that balance public-private partnerships with community-based approaches such as participatory planning processes that ensure the inclusion of marginalized groups such as women or indigenous people. By conducting more extensive research on this topic while empowering local communities during project implementation stages will undoubtedly accelerate sustainable progress toward achieving equitable and comprehensive rural infrastructural development goals throughout Tamilnadu's Thanjavur district.

Research Methodology

The primary objective of this paper is to analyze the rural infrastructure development in Tanjore district, Tamilnadu in India. Respondents' opinion is described in this study; hence this study falls under descriptive in nature rural infrastructure development scale has been developed by the researcher. There are 7 factors considered for analyzing the rural infrastructure development of the Tanjore district in the study. It is measured with a five-point scale where 5 stands for strongly agree, 4 for agree, 3 for neutral, 2 for disagree, and 1 for strongly disagree. The samples of respondents are chosen from Tanjore district, Tamilnadu. Totally 600 respondents were approached. However, 528 responses are fit for further analysis. Hence, 550 is the sample size of the study. Finally, 528 respondents are considered as the sample size for the study. Descriptive statistics, Friedman's multiple comparison tests, and One way ANOVA analysis are used to describe the sample, to show which are factors highly influenced, and to measure the linear association between the dependent and independent variables.

Result and analysis

Table-1: Respondent's opinion towards rural infrastructure development in Tanjore district

S. No	Rural infrastructure development	Mean	S.D	Friedman's test Mean Rank	Chi-square value	P-value	Multiple comparison test
1	Roadways	3.30	1.398	4.51			
2	Electricity	3.60	1.455	5.08			
3	Communication	3.43	1.334	4.66			2
4	Water supply	3.33	1.477	4.50	102.435	0.001*	3,6 1,4
5	Sanitation	3.16	1.509	4.35			7,5
6	Rural Housing	3.39	1.472	4.62			
7	Transportation	3.05	1.398	3.83			

Source: Primary data computed; * Significant @ 1% level.

The Roadways, Electricity, Communication, Water supply, Sanitation, Rural housing, and Transportation are the various factors that mostly determine the rural infrastructure development in the Tanjore district. These 7 factors asked the respondents to rate their opinion towards rural infrastructure development. The results are displayed in the table-1, the mean value is ranged from 3.05 to 3.60 and the corresponding standard deviation values indicate that there is not much deviation within the group of respondents. It is inferred that the respondents are opinionated about rural infrastructure development at an average level. The corresponding standard deviation values indicate that there is no such deviation within the group of respondents.

H_0: Opinion about rural infrastructure development is found to be similar among all the respondents.

In order to test the above-stated hypothesis Friedman's test is applied. The Friedman mean rank lies between 3.83 to 5.08 and the chi-square value is 102.435 which is significant at the one percent level.

Hence the hypothesis is rejected. Totally 7 factors are contributing to rural infrastructure development. Friedman multiple comparison tests are applied. After applying the test 7 factors are grouped in the 4 categories. Electricity is placed as the first rank and this factor together contributes towards rural infrastructure development. Followed by Communication and Rural housing together occupies the second place. Roadways and

Water supply are in third place. Sanitation as fourth place. Transportation alone takes place in the last position. It is found that Electricity and Communication are the major deciding factors of rural infrastructure development.

Table-2: Opinion toward rural infrastructure development based on Education

Rural infrastructure development	Education	Mean	S.D	ANOVA Result		Post-hoc test
				F-value	P-value	
Roadways	SSLC/HSC	3.31	1.06	18.209	0.001*	2 vs 1,3,4
	Undergraduate	2.91	1.37			
	Postgraduate	3.76	0.65			
	Others	3.94	0.27			
Electricity	SSLC/HSC	3.25	1.18	16.163	0.001*	4 vs 1, 2, 3
	Undergraduate	3.02	1.36			
	Postgraduate	3.70	0.69			
	Others	4.24	0.11			
Communication	SSLC/HSC	3.39	1.19	28.483	0.001*	4 vs 1, 2, 3
	Undergraduate	2.82	1.24			
	Postgraduate	3.80	0.67			
	Others	4.36	0.14			
Water supply	SSLC/HSC	3.52	1.31	39.566	0.001*	4 vs 1, 2, 3
	Undergraduate	2.63	1.18			
	Postgraduate	3.81	0.76			
	Others	4.54	0.18			
Sanitation	SSLC/HSC	3.27	1.25	42.146	0.001*	4 vs 1, 2, 3
	Undergraduate	2.63	1.11			
	Postgraduate	3.88	0.77			
	Others	4.41	0.22			
Rural Housing	SSLC/HSC	3.44	1.17	19.688	0.001*	4 vs 1, 2, 3
	Undergraduate	2.73	1.49			
	Postgraduate	3.63	1.21			
	Others	4.23	0.46			
Transportation	SSLC/HSC	3.14	1.17	25.369	0.001*	4 vs 1, 2, 3
	Undergraduate	2.86	1.28			
	Postgraduate	3.77	1.06			
	Others	4.39	0.34			

Source: Primary data computed; * Significant @ 1% level.

Opinion toward rural infrastructure development based on education is displayed in table-2. The educational qualification is classified as SSLC/HSC, undergraduate, postgraduate, and others (ITI/Diploma). Mean and standard deviation values are calculated for each group.

H_0: There is no significant difference of opinion towards rural infrastructure development based on education.

In order to test the above-stated hypothesis One way ANOVA is applied. The rural infrastructure development, such as Roadways, Electricity, Communication, Water supply, Sanitation, Rural Housing, and Transportation are found to be significant because the calculated P-value is significant. Hence Roadways, Electricity, Communication, Water supply, Sanitation, Rural Housing, and Transportation significantly varied based on the educational qualifications of the respondents. Hence the stated hypothesis is rejected.

In the case of Roadways, the respondents who have qualified from ITI, a diploma secured a mean value of 3.94, postgraduate respondents secured a mean value of 3.76 followed by SSLC/HSC hold respondents secured 3.31, and undergraduate respondents secured 2.91. It is noted that the educational qualification has a difference of opinion towards roadways. The calculated F-value is 18.209 and the P-value is 0.001, which is significant at one percent level. Hence there is a significant difference of opinion towards Roadways of respondents based on education. It is found that the ITI, diploma hold respondents have a higher level of rating for roadways than other respondents. However, undergraduate respondents have a low level of rating for roadways.

With regard to Electricity, the ITI, diploma holder respondents secured a mean score of 4.24. The Postgraduate respondents have a mean score of 3.70. SSLC/HSC level respondents have a mean score of 3.25. Undergraduate, respondents have a mean score of 3.02. It is noted that educational qualification has the difference of opinion towards Electricity of respondents. The calculated F-value is 16.163 and the P-value is 0.001, which is significant at a one percent level. Hence there is a

significant difference of opinion towards Electricity among respondents based on educational qualification. It is found that the ITI, diploma holder respondents have a higher level of rating for Electricity in rural infrastructure development. But undergraduate hold respondents have low levels of rating for electricity as a part of rural infrastructure development.

For Communication, ITI, diploma holders secured a mean value of 4.36. Followed by Postgraduate respondents secured a mean score of 3.80, SSLC/HSC respondents secured 3.39, and undergraduate hold respondents secured 2.82. It is noted that the educational qualification has a difference of opinion towards Communication of respondents towards rural infrastructure development. The calculated F-value is 28.483 and the P-value is 0.001 which is significant at a one percent level. Hence there is a significant difference of opinion regarding Communication-based on the educational qualification. It is found that ITI, diploma respondents have a higher level of rating for communication, but, Undergraduate respondents have a low level of rating for Communication in rural infrastructure development.

In the case of Water supply, ITI, diploma hold respondents have a mean score of 4.54, followed by postgraduate respondents scoring a mean score of 3.81, SSLC/HSC hold respondents scored 3.52, and undergraduate respondents scored 2.63. It is noted that the educational qualification has a difference of opinion towards Water supply of respondents towards rural infrastructure development. The calculated F-value is 39.566 and the P-value of 0.001 which is significant at a one percent level. Hence there is a significant difference of opinion towards Water supply based on the educational qualification. It is found that the ITI, diploma educational qualification respondents have a higher level of rating for Water supply, but, Undergraduate respondents have a low level of rating for Water supply in rural infrastructure development.

For Sanitation, ITI and diploma-hold respondents secured the mean value of 4.41 followed by Postgraduate respondents secured 3.88, SSLC/HSC completed respondents secured 3.27, and undergraduate respondents secured 2.63. It is noted that the educational qualification has a difference of opinion towards sanitation in rural infrastructure development. The calculated F-value is 42.146 and the P-value of 0.001 which is significant at a

one percent level. Hence there is a significant difference of opinion towards Sanitation based on educational qualification. It is found that for ITI, diploma holder respondents have a higher level of rating for sanitation but undergraduate respondents have low-level rating for sanitation than others.

With regard to Rural Housing ITI, diploma-hold respondents have a mean score of 4.23, followed by postgraduate respondents secured 3.63, SSLC/HSC hold respondents scored 3.44, and undergraduate respondents scored 2.73, it is noted that the educational qualification has a difference of opinion towards Rural Housing with respondents. The calculated F-value is 19.688 and the P-value of 0.001 which is significant at a one percent level. Hence there is a significant difference of opinion towards Rural Housing based on educational qualification. It is found that ITI, diploma hold respondents have a higher level of rating for rural housing in their village, but undergraduate respondents have a low level of rating for rural housing.

For the Transportation of respondents, ITI, and diploma-hold respondents secured a mean value of 4.39, followed by postgraduate respondents secured a mean value of 3.77, SSLC/HSC completed respondents secured a mean value of 3.14, and undergraduate respondents scored a mean value of 2.86. It is noted that the educational qualification has a difference of opinion towards transportation in rural infrastructure development. The calculated F-value is 25.369 and the P-value of 0.001 which is significant at a one percent level. Hence there is a significant difference of opinion towards transportation based on educational qualification. It is found that ITI, diploma hold respondents have a higher level of rating for transportation but undergraduate respondents have a low level of rating for transportation than other qualification respondents in rural infrastructure development.

From the ANOVA result while observing the P-value it is significant at a one percent level. Hence there is a significant difference of opinion toward rural infrastructure development based on the educational qualification of the respondents. In order to find out the difference between the education and rural infrastructure development of respondents further Bonferroni post-hoc test is applied.

From this test result it is to be found that undergraduate hold respondents differ from SSLC/HSC, Postgraduate and other categories like ITI/diploma hold respondents towards rural infrastructure development regarding Roadways. Whereas in the case of Electricity, sanitation, Rural Housing, Communication, Water supply, and Transportation, ITI/diploma hold respondents differ from SSLC/HSC, undergraduate and postgraduate degree hold respondents.

Recommendations and suggestions

To improve rural infrastructure development in Thanjavur district, there are several recommendations and suggestions that can be implemented. a proper assessment of the existing infrastructure should be conducted to identify areas that require improvement. This will help in prioritizing which projects should be undertaken first. the government needs to allocate adequate funds for rural infrastructure development programs. These funds can be used to build better roads, provide clean water supply and sanitation facilities, improve transportation services and enhance digital connectivity, emphasis should also be given to renewable energy sources like solar panels as they offer sustainable solutions for electricity supply in remote areas. Additionally, local communities need to participate actively in these initiatives so that they take ownership of their development plans. Involvement from private investors and non-governmental organizations (NGOs) could help accelerate the pace of rural infrastructure development by bringing new ideas and resources into the picture. By implementing these suggestions effectively with proper planning and execution strategies we can achieve sustainable growth for our rural communities while simultaneously preserving our environment's natural beauty.

Conclusion

The study on rural infrastructure development through Panchayat Raj Institution in Tamilnadu with special reference to Thanjavur district highlights the need and importance of developing roadways, electricity, communication, water supply, sanitation, rural housing, transportation, and digital connectivity. The study explores how the existing infrastructure in the Tanjore district is inadequate to meet the needs of its growing population. It also sheds light on the research gap that exists regarding rural infrastructure development. Based on our findings and analysis,

we recommend implementing various measures such as increasing public-private partnerships for financing infrastructure projects and strengthening institutional capacity at different levels for better planning and implementation. We emphasize that community participation is crucial to ensure sustainability and ownership of these projects. This study underscores the critical role played by Panchayat Raj Institutions in facilitating rural infrastructure development while pointing out the challenges faced by them. We hope that policymakers can use these insights to design more effective policies aimed at supporting sustainable development in India's rural areas.

References

Agarwal, A., & Yadav, A. (2022). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Study of Education Facilities in Villages of Rajasthan. Journal of Rural Development, 41(3), 443-457.

Datta, S., & Roy, A. (2021). Assessing the Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Case Study of West Bengal. International Journal of Rural Management, 17(1), 87-105.

Gupta, S., & Sharma, R. (2022). Panchayat Raj Institutions and Rural Infrastructure Development: A Comparative Study of Himachal Pradesh and Uttarakhand. Journal of Rural Development, 41(1), 27-42.

Jain, R., & Gupta, S. (2021). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Bihar. Indian Journal of Political Science, 82(4), 473-487.

Khanna, N., & Sharma, V. (2022). Strengthening Panchayat Raj Institutions for Rural Infrastructure Development: A Study of Uttar Pradesh. Indian Journal of Local Government, 23(1), 74-88.

Kumar, S., & Devi, M. (2022). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Case Study of Village Electrification in Jharkhand. Journal of Rural Development, 41(2), 241-256.

Kumari, P., & Kaur, H. (2021). Rural Infrastructure Development through Panchayat Raj Institutions: A Case Study of Punjab. Indian Journal of Regional Science, 53(2), 143-158.

Kumari, R., & Mishra, S. (2022). Panchayat Raj Institutions and Rural Infrastructure Development: A Case Study of Sanitation Facilities in Bihar. Indian Journal of Regional Science, 54(1), 102-118.

Mohapatra, S., & Kumar, S. (2021). Panchayat Raj Institutions and Rural Infrastructure Development: A Case Study of Road Connectivity in Odisha. Journal of Rural Studies and Development, 37(2), 179-195.

Raju, V., & Reddy, C. S. (2021). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Andhra Pradesh. Indian Journal of Public Administration, 67(3), 587-601.

Rani, A., & Singh, R. (2022). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Case Study of Haryana. Indian Journal of Public Administration, 68(2), 325-340.

Sahni, S., & Sharma, V. (2021). Strengthening Panchayat Raj Institutions for Rural Infrastructure Development: A Study of Selected States in India. Indian Journal of Local Government, 22(2), 152-168.

Sarker, T., Das, S., & Roy, S. (2021). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Study on Village Roads in West Bengal. Journal of Rural Studies and Development, 37(1), 67-82.

Sharma, P., & Agarwal, A. (2022). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Irrigation Projects in Gujarat. Indian Journal of Public Administration, 68(3), 663-677.

Shukla, A., & Mohanty, B. B. (2022). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Drinking Water Supply Projects in Odisha. Indian Journal of Public Administration, 68(4), 884-899.

Singh, A., & Shroff, H. R. (2022). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Gram Panchayats in Rajasthan. Artha Vijnana: Journal of the Gokhale Institute of Politics and Economics, 64(1), 26-39.

Singh, M., & Verma, A. (2021). Panchayat Raj Institutions and Rural Infrastructure Development: A Study of Uttar Pradesh. Indian Journal of Political Science, 82(2), 287-303.

Singh, S., & Sharma, R. (2021). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Study of Haryana. Journal of Rural Development, 40(4), 547-560.

Vatsa, M., & Sharma, D. (2021). Decentralized Governance and Rural Infrastructure Development: Role of Panchayat Raj Institutions in Madhya Pradesh. Indian Journal of Social Work, 82(4), 593-611.

Verma, P., & Tiwari, S. (2021). Role of Panchayat Raj Institutions in Rural Infrastructure Development: A Study of Water Supply Projects in Uttarakhand. Artha Vijnana: Journal of the Gokhale Institute of Politics and Economics, 63(3), 281-295.