

EMPOWERING RURAL WOMEN ENTREPRENEURS: THE ROLE OF INFRASTRUCTURE AND POLICY INTERVENTIONS

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ABSTRACT

India's villages are home to 68.84% of its population, reflecting the critical role of rural development in the nation's progress. Rural entrepreneurship emerges as a pivotal tool for alleviating poverty and fostering economic growth. This study investigates the relationship between entrepreneurial activity and rural development, focusing on women entrepreneurs in rural Karnataka. Using a descriptive research design, the study highlights the influence of rural infrastructure, motivational factors, and challenges on entrepreneurial success. Findings reveal that population size does not significantly affect entrepreneurship; instead, infrastructure and opportunities play a decisive role. Key challenges include limited digital connectivity, insufficient e-governance, and inadequate law enforcement facilities. Recommendations include enhancing digital infrastructure, tailoring government schemes for women entrepreneurs, and promoting community-based skill development initiatives to empower rural women and bolster sustainable development.

Keywords: Rural Entrepreneurship, Women Entrepreneurs, Rural Development, Digital Infrastructure, Community Empowerment, Karnataka.

INTRODUCTION

Mahatma Gandhi once said, "India lives in its villages." The statement still holds true today, socially, economically, and politically. In India, approximately 68.84 percent of the people live in rural areas. Rural residents should enjoy the same standard of living as those in suburban and urban areas. Causing slums in urban areas are factors such as poverty, unemployment, and poor infrastructure in the countryside. These factors lead to social and economic tension, which in turn leads to urban poverty and economic deprivation. The improvement of rural people's living standards by providing adequate and high-quality social services and the bare minimum of their basic needs is therefore essential for Rural Development, which is concerned with economic growth and social justice.

With rural development, the primary goal is poverty alleviation through self-employment and wage employment programmes, as well as provision of community infrastructure like drinking water, electricity, road connectivity, and health services. It also promotes decentralisation of power to strengthen Panchayat raj institutions. Rather than being more widespread, economic liberalisation has so far been limited to the large organised sector. Many dispersed and unorganised business activities will benefit immediately if small and medium-sized entrepreneurs are freed from government controls, and employment will rise as a result. The research on Rural Entrepreneurship sheds light on the inner workings of a key sector of the economy and raises a few new

questions that warrant further investigation. The study is based on the premise that entrepreneurship can transform rural areas. As a result of this background, the current study sought to determine whether entrepreneurial activity correlates with rural development. In addition, it aims to identify rural entrepreneurs' motivational factors, challenges, and potential entrepreneurial opportunities in the future. "Rural Entrepreneurship" is the name of the study.

Review of Literature

- 1.1.Rural Entrepreneurship and Economic Growth:** Scholars such as Sathiabama (2010) and Tambunan (2017) emphasize the role of rural entrepreneurship in boosting local economies by creating jobs and reducing rural-to-urban migration. They note that entrepreneurship catalyzes resource utilization and skill enhancement.
- 1.2.Women Entrepreneurs in Rural Areas:** Studies like Goyal and Parkash (2011) and Singh and Belwal (2008) highlight women entrepreneurs as agents of change in rural development. They encounter challenges like societal biases, limited access to credit, and lack of business education but significantly contribute to community welfare.
- 1.3.Role of Infrastructure in Entrepreneurship:** Infrastructure, particularly digital connectivity and transportation, is identified as a critical enabler of entrepreneurship by researchers like Kharub and Sharma (2018). Studies underline the correlation between infrastructure development and rural entrepreneurial success.
- 1.4.Government Schemes and Policies:** Reviews of schemes like *Mudra Yojana* and *Start-up India* by authors such as Kaur and Kaur (2020) reveal that while these initiatives support entrepreneurship, they often fail to penetrate effectively in rural regions, particularly for women.

2. Research Gap:

Although significant studies exist on rural entrepreneurship and women's empowerment, gaps remain:

- 2.1.Lack of Regional Focus:** Few studies specifically explore rural entrepreneurship in Karnataka, despite its dynamic socio-economic landscape.
- 2.2.Inadequate Exploration of Digital Infrastructure:** Limited attention has been given to the role of digital connectivity in rural entrepreneurial success.
- 2.3.Challenges of Women Entrepreneurs:** Existing literature overlooks nuanced challenges faced by rural women, such as cultural constraints and access to e-governance resources.
- 2.4.Sustainability Perspective:** There is a lack of emphasis on how rural entrepreneurship can be a sustainable driver of development beyond economic gains. This study addresses these gaps by focusing on rural women entrepreneurs in Karnataka and their intersection with digital and community-based infrastructure to promote sustainable rural development.

Research Methodology:

- 2.5.Research Design:** This study adopts a **descriptive research design** to explore and understand the nature, motivations, and challenges faced by women entrepreneurs in rural areas. The design also incorporates **correlational analysis** to identify relationships between demographic factors (e.g., population, age) and entrepreneurial activity.

2.6.Objectives of the Study:

- 2.6.1.** To know the Impact of Rural Infrastructure on entrepreneurial success.
- 2.6.2.** To identify the motivational factors and challenges faced by women entrepreneurs in rural areas.
- 2.6.3.** To assess the role of government schemes and programs in promoting rural entrepreneurship among women.

2.7.Sampling Design:

2.7.1. Population: Women entrepreneurs in rural Karnataka.

2.7.2. Sampling Frame: Women engaged in entrepreneurial activities across 40 rural villages in Karnataka.

2.7.3. Sample Size: 40 women entrepreneurs.

2.7.4. Sampling Method: Stratified random sampling, with villages categorized based on population size (1000–2000, 2001–3000, 3001–4000, and above 4000).

2.8. Data Collection Methods:

2.8.1.Primary Data: Structured questionnaires and personal interviews were used to gather insights from women entrepreneurs regarding their motivations, challenges, and infrastructure support.

2.8.2. Observation of village conditions and available resources to validate responses.

2.8.3.Secondary Data: Government reports, prior research articles, and policy documents on rural entrepreneurship and development.

2.9.Variables:

2.9.1. Independent Variables: Village population size, Age of women entrepreneurs

2.9.2 Dependent Variables: Number of entrepreneurs, Type of business activity

2.9.2. Control Variables: Availability of infrastructure (water, sanitation, education, healthcare, etc.), Access to government schemes and financial services

2.10. Data Analysis Tools:

2.10.1. Quantitative Analysis:

Chi-Square Test: To test the association between population size and the number of entrepreneurs, as well as the age of entrepreneurs and their choice of business activity.

Descriptive Statistics: To summarize the demographic and infrastructural data.

2.10.2. Qualitative Analysis: Content analysis of responses to open-ended questions regarding challenges and motivations.

2.11. Scope and Limitations

2.11.1. Scope:

2.11.2. Focused on women entrepreneurs in rural Karnataka.

2.11.3. Emphasizes the relationship between demographic factors and entrepreneurial activities.

2.12. Limitations:

2.12.1. Limited sample size may not represent all rural regions in India.

2.12.2. Findings may not generalize to male entrepreneurs or urban entrepreneurs.

2.13. Hypotheses:

1. **H0:** The number of entrepreneurs in a village is independent of the village's population.

2. **H0:** The age of women entrepreneurs is independent of their choice of business activity.

5. RESULTS & DISCUSSIONS

About 61.33 percent of Karnataka's population lives in its approximately 27,397 villages. Rural development varies because no two villages are created equal. Numerous factors have been cited to support this, including proximity to urban areas, rural residents' involvement in the development process, political motivations, and so forth In order to encourage entrepreneurs to start their business, the village environment is critical. The rural environment and its importance for overall entrepreneurship development have been studied through factors such as rural infrastructure, people's attitudes and cultures, literacy levels, and awareness of government schemes. 30% of the villages have a population greater than 4001, 27% have a population between 1000 and 2000, 22% have a population between 2001 and 3000, and 17% have a population between 3001-4000.

5.1 Hypothesis Testing

H0: Number of entrepreneurs and population in village are independent H1: Number of entrepreneurs and population in village are not independent.

Table 1: Population wise classification of women entrepreneurs

Population	No. of Entrepreneurs				Total
	10-15	16-21	22-27	28 and Above	
1000-2000	2	2	2	5	11
	5.00%	5.00%	5.00%	12.50%	27.50%
2001-3000	2	2	4	1	9
	5.00%	5.00%	10.00%	2.50%	22.50%
3001-4000	5	1	0	1	7
	12.50%	2.50%	0.00%	2.50%	17.50%
4001 and above	0	1	3	9	13
	0.00%	2.50%	7.50%	22.50%	32.50%
Total	9	6	9	16	40
	22.50%	15.00%	22.50%	40.00%	100.00%

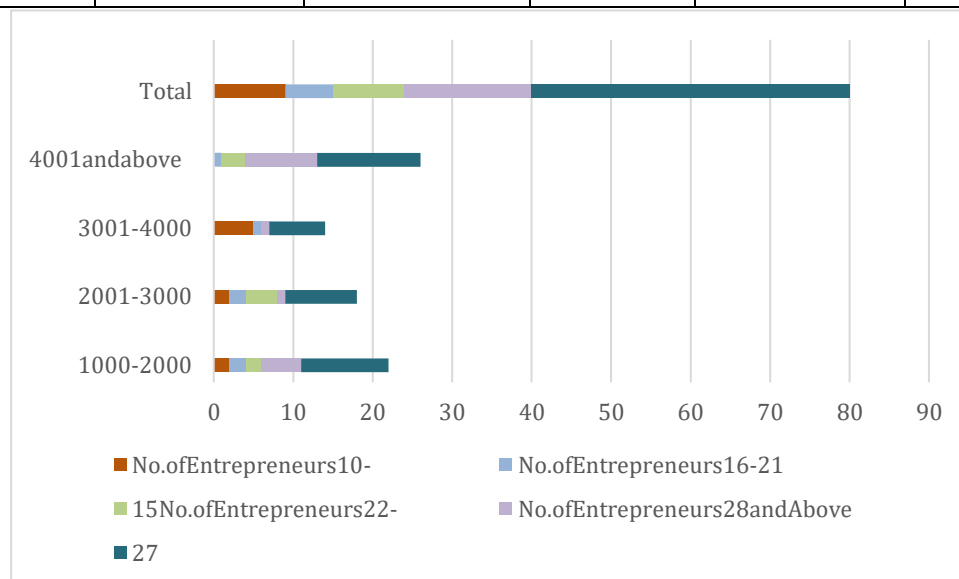


Figure 1: Population wise classification of women entrepreneurs

Entrepreneurs aged 28 and above live in 22.50 percent of villages with a population of 4001 or more, while entrepreneurs aged 28 and above are found in 12.50 percent of villages with a population of 1000-2000.

Table 2: Chi-Square Table

		df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.805	9	0.014
Likelihood Ratio	22.835	9	0.007
Linear-by-Linear Association	1.552	1	0.213
N of Valid Cases	40		

The p value of Chi-square tested at 5 per cent level of significance is read as 0.014 (which is >0.05). From the above result it can be concluded that population in village and Number of entrepreneurs in that village is independent. This shows that village population in no way influence the number of entrepreneurs. This was evident that some villages were having more number of entrepreneurs even though the size of village population is less. Opportunities influence the size of entrepreneurship in villages.

Table 3: Facilities available at villages: Entrepreneur's Perspective

Facilities at Village	Com pletely Agree	Agree	Neutral	Disagr ee	Com pletel y Disag ree
A safe and sanitary source of drinking water is readily available	17 42.50%	16 40.00%	3 7.50%	4 10.00%	0 0.00%
There is a good Sanitation facility available.	6 15.00%	18 45.00%	6 15.00%	4 10.00%	6 15.00%
A doctor was readily available when you needed him at the Primary Health Centre.	12 30.00%	19 47.50%	4 10.00%	4 10.00%	1 2.50%
House of Janatha	9 22.50%	11 27.50%	17 42.50%	2 5.00%	1 2.50%
Children's educational facility	19 47.50%	12 30.00%	9 22.50%	0 0.00%	0 0.00%
Students go to college.	7 17.50%	13 32.50%	9 22.50%	3 7.50%	8 20.00%
A network of roads that connect	5 12.50%	16 40.00%	10 25.00%	6 15.00%	3 7.50%
Illumination of streets through the use of electricity	6 15.00%	15 37.50%	11 27.50%	6 15.00%	2 5.00%
Telephony and mobile devices are common forms of communication.	13 32.50%	13 32.50%	10 25.00%	1 2.50%	3 7.5
Broadband communication via the internet	5 12.50%	8 20.00%	6 15.00%	21 52.50%	0 0.00%
Access to a financial institution	12 30.00%	15 37.50%	3 7.50%	1 2.50%	9 22.50%
facility for the delivery of mail	11 27.50%	19 47.50%	8 20.00%	1 2.50%	1 2.50%
Women take part in activities that help them grow and develop.	9 22.50%	16 40.00%	12 30.00%	2 5.00%	1 2.50%
Involvement of school teachers	12	18	8	1	1

in community development	30.00%	45.00%	20.00%	2.50%	2.50%
Participation by youth is crucial in the development of the community	17	16	3	3	1
	42.50%	40.00%	7.50%	7.50%	2.50%
A public transportation facility is located close to the community.	13	19	5	1	2
	32.50%	47.50%	12.50%	2.50%	5.00%
The local law enforcement station	5	8	6	5	16
	12.50%	20.00%	15.00%	12.50%	40.00%
Implementation of e-government projects	1	2	6	8	23
	2.50%	5.00%	15.00%	20.00%	57.50%
In the world today, there are numerous Non-Governmental Organizations (NGO).	10	14	8	4	4
	25.00%	35.00%	20.00%	10.00%	10.00%
National Grameen Bank of India Limited (SGRY)	3	16	11	8	2
	7.50%	40.00%	27.50%	20.00%	5.00%
Program called Swarna Jayanti Gram Swarozghar (SGSY)	2	10	17	8	3
	5.00%	25.00%	42.50%	20.00%	7.50%
Gram Sadak Yojana of the Pradhan Mantri Ministry of Rural Development (PMGSY)	3	8	15	11	3
	7.50%	20.00%	37.50%	27.50%	7.50%
Fund for the development of rural infrastructure (RIDF)	0	13	12	13	2
	0.00%	32.50%	30.00%	32.50%	5.00%
National Rural Employment Guarantee Program (NREGP) (SGY)	5	10	15	7	3
	12.50%	25.00%	37.50%	17.50%	7.50%

Among the entrepreneurs, 42.50 percent agree that a hygienic drinking water facility is available, 45 percent agree that proper sanitation is available, 47.50 percent agree that doctors are available in primary health centres when needed, and 42.50 percent are neutral about the Janatha House provided by the government under various programmes. 47.50 percent of respondents strongly agree that their village has adequate schooling for children, 32.50 percent agree that their village has a college for students (generally up to the 12th standard), 40.00 percent agree that their village has adequate connecting roads, and 37.50 percent agree that villages have better power connectivity and street lighting. In terms of communication facilities like telephone and mobile network, 32.50 percent of them are completely in agreement. About 52.50% disagree that villages do not have broadband Internet access, 37.50% agree that villages have banking services, and 47.50% agree that there is a post office in the village. That 40% of them believe women actively participate in village development activities is noteworthy, as is the fact that 45% of them believe even school teachers take active initiative in village development. 42.50 percent of people are completely in agreement with the statement

that youth actively participate in their own development. A whopping 47.5 percent of people think villages are connected to public transportation via buses and/or trains. Auto rickshaws are included in this category as well. 40% of those polled said they strongly oppose placing police stations in rural areas. The majority of respondents (57.5%) strongly oppose the implementation of e-governance initiatives. Three-fifths of them agree that non-governmental organisations (NGO) are active and take initiative in empowering women and rural youth, as well as other village development activities. Forty percent of them agree that they know about SGRY. About 32.50 percent of respondents agree with RIDF, while the same percentage also disagrees. SGY is liked by 37.50 percent of people.

5.1 Hypothesis Testing

H0: age of an entrepreneur and Nature of Business are independent

Table 4: Chi-Square Table

	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	38.286	27	0.073
Likelihood Ratio	38.902	27	0.065
Linear-by-Linear Association	10.318	1	0.001
N of Valid Cases	400		

The p value of Chi-square tested at 5 per cent level of significance is read as 0.073 which is greater than 0.05. Hence, choice of business activity is independent of entrepreneur's age. Thus we can conclude that there is no association between age of entrepreneurs and their choice of business. It is seen that age group of 29-38 forms the major chunk of people involved in enterprising.

FINDINGS BASED ON OBJECTIVES:

Objective 1: To identify the availability and impact of rural infrastructure and facilities on entrepreneurial success.

Findings:

1. Adequate schooling for children is available in 47.5% of villages, but higher education facilities like colleges are limited to 32.5%.
2. Road connectivity is moderately sufficient, with 40% agreeing their village has adequate road networks. However, only 37.5% agree that power connectivity and street lighting are adequate.
3. Internet access is severely lacking, with 52.5% of respondents disagreeing that villages have broadband connectivity.
4. Public transportation facilities are moderately available, with 47.5% agreeing to their presence.
5. Banking services and post offices are relatively accessible, with 37.5% and 47.5% agreeing, respectively.

Objective 2: To understand the motivational factors and challenges faced by women entrepreneurs in rural areas.

Findings:

1. Women entrepreneurs face significant challenges like inadequate digital infrastructure (52.5% dissatisfaction with broadband access) and low implementation of e- governance (57.5% strongly opposing its effectiveness).
2. Limited law enforcement facilities, as 40% of respondents strongly disagree about having a nearby police station, hinder a safe entrepreneurial environment.
3. Active participation of youth (42.5%) and school teachers (45%) in community development is a motivational factor, highlighting collective social support in

villages.

4. Cultural and structural challenges such as societal constraints and limited mobility remain barriers to women entrepreneurs.

Objective 3: To assess the role of government schemes and programs in promoting rural entrepreneurship among women.

Findings:

1. Awareness of government initiatives like SGRY (40%) and RIDF (32.5%) exists, but the utilization remains limited due to inadequate outreach and execution.
2. Programs like SGSY and PMGSY show mixed responses, with many respondents remaining neutral, indicating unclear benefits or inadequate access.
3. NGOs are perceived as moderately active, with 35% agreeing that they assist in empowering women and rural youth.
4. Tailored schemes for rural women entrepreneurs are necessary, as generic programs do not effectively address their specific needs and challenges.

Objective 4: To explore entrepreneurial opportunities and their relationship with demographic and infrastructural factors.

Findings:

1. The Chi-square test revealed that the size of the village population does not influence the number of entrepreneurs, indicating that opportunities, rather than population, drive entrepreneurship.
2. Entrepreneurs aged 28 and above form a significant segment, showcasing the potential of middle-aged women in rural entrepreneurship.
3. Entrepreneurship is more common in villages with better infrastructure, such as safe drinking water (42.5%) and healthcare facilities (47.5%).
4. Opportunities for growth are directly tied to better digital connectivity and transportation, emphasizing the need for focused infrastructural improvements.

6. SUGGESTIONS

1. **Improving Digital Infrastructure:** Expand broadband and internet access to rural areas to support entrepreneurial activities and digital literacy among women entrepreneurs.
2. **Customized Government Schemes:** Design schemes specifically targeting women entrepreneurs with smaller-scale operations. Enhance awareness of existing programs through community workshops and local NGOs.
3. **Skill Development Programs:** Organize training sessions for women entrepreneurs on financial management, digital marketing, and operational efficiency.
4. **Strengthening Local Institutions:** Encourage active participation of school teachers and youth in village development initiatives to build a robust support system for entrepreneurs.
5. **Enhanced Financial Accessibility:** Partner with microfinance institutions to provide easy access to credit for women entrepreneurs.
6. **Monitoring and Evaluation:** Set up mechanisms to regularly assess the effectiveness of government programs and infrastructure development in fostering rural entrepreneurship.

7. CONCLUSION

Rural India's entrepreneurship scene is critical to the country's economic well-being. Women, small farmers, landless workers, and rural youth all rely on entrepreneurship as a major source of income. Rural nonfarm employment is dominated by unorganised business enterprises. The majority of rural entrepreneurship is found in service, trade, and small-scale manufacturing such as handicrafts and looming. Small, part-time, and mostly

family businesses rule this market. To some extent, rural entrepreneurship success is dependent on regional market demands, and it tends to grow quickly when agriculture is growing rapidly.

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