

Socio-Economic Development, Living Conditions and Rural Infrastructure in Bangana Block, Una District, Himachal Pradesh

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Chapter

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ABSTRACT

Rural mountainous regions in India are characterised by difficult terrain, dispersed settlements, and uneven development, which shape socio-economic conditions, housing quality, and infrastructure access. This study examines these dimensions in Bangana Block, Una District, Himachal Pradesh, using primary data from 140 households selected through field-based sampling. Information was collected through a structured questionnaire covering income, demographic profile, education, housing conditions, and access to basic amenities. Descriptive statistics, along with chi-square and regression analysis, were employed for data interpretation.

Findings reveal pronounced socio-economic disparities, with a majority of households belonging to lower-income groups and marginalized communities concentrated in economically weaker sections. Housing quality improves with income, shifting from kutcha to pucca structures. While access to electricity and sanitation is relatively widespread, significant deficits persist in drinking water, clean cooking fuel, and digital connectivity, particularly among low-income households. Regression results indicate that infrastructure access exerts the strongest influence on quality of life, followed by income and housing quality. The study highlights the need for integrated rural development policies focusing on housing improvement, infrastructure expansion, and reduction of socio-economic inequalities.

Keywords: Rural Development; Housing Conditions; Infrastructure; Inequality; Quality of Life; Himalayan Region.

INTRODUCTION

Rural mountain regions in India are characterized by rugged terrain, scattered settlements, ecological fragility, and poor accessibility. These conditions strongly shape development patterns, especially housing quality, infrastructure provision, and living standards. High construction costs, weak connectivity, and difficult service delivery often result in uneven development and limited access to basic facilities, affecting overall well-being.

Quality of life refers to the overall well-being of households, including income, education, health, housing, and access to essential services. In rural areas, it is closely linked with safe housing and basic infrastructure such as water supply, electricity, sanitation, transport, clean cooking fuel, and digital connectivity. Lack of these facilities reduces comfort, security, and development outcomes.

Mountain communities face additional challenges due to remoteness, difficult geography, and high infrastructure costs, which limit service delivery and create regional disparities. In Himachal Pradesh, scattered settlements further complicate development, and gaps in income, housing, and services still exist despite improvements in recent years. Bangana Block in Una District reflects these conditions, showing gradual development alongside persistent inequalities across households. This study examines housing conditions, infrastructure availability, and quality of life in Bangana Block using a survey of 140 households. Data collected through a structured questionnaire were analysed using frequency and percentage methods to understand socio-economic differences and access to basic amenities. The findings aim to support better rural development planning and policy decisions.

REVIEW OF LITERATURE

The review of literature is important because it provides a clear understanding of existing studies related to the research topic. It helps to identify research gaps, refine the problem statement, and build a strong theoretical foundation for the study. It also assists in selecting appropriate methodologies and comparing findings with previous research, thereby improving the quality and reliability of the study.

Kumar and Deka (2016) studied rural housing in India using primary survey data and percentage analysis. They found that about 60.00 to 70.00 per cent of rural households live in kutchra or semi-pucca houses with poor sanitation and ventilation, which adversely affects health and overall living standards. The study concluded that housing quality is a major determinant of rural quality of life.

Alam, Satpati, and Mandal (2022) used secondary data from NSSO and government reports to examine rural housing and sustainable development. They reported that nearly 45.00 per cent of rural households still lack durable housing despite government schemes, highlighting a focus on quantity over quality in policy implementation.

Sharma and Agarwal (2024) analysed rural infrastructure using field survey data and regression techniques, finding that better infrastructure is associated with 25.00 to 35.00 per cent higher income levels. Devi and Tiwari (2023) used GIS-based analysis in Himachal Pradesh and observed significant regional disparities, with remote villages having 30.00 to 40.00 per cent lower access to basic services due to difficult terrain.

Kumar et al. (2005) found through epidemiological and chi-square analysis that poor housing conditions increase health risks such as respiratory and water-borne diseases by up to 40.00 per cent. Singh et al. (2012) reported 20.00 to 30.00 per cent lower access to basic services among marginalised groups, while Ghaffar

et al. (2025) highlighted that only 35.00 to 45.00 per cent of rural households in remote areas have reliable internet access, showing a strong digital divide affecting development outcomes.

Research Gap

Despite extensive research on rural housing and infrastructure, most studies focus on macro or regional levels, with limited attention to micro-level household analysis in specific areas like Bangana Block. Existing literature also remains fragmented, as housing, infrastructure, socio-economic conditions, and digital access are generally studied separately rather than in an integrated framework. Therefore, a clear gap exists in household-level, integrated studies in rural mountainous regions.

OBJECTIVES OF THE STUDY

- To analyse the socio-economic status of rural households.
- To assess housing conditions and access to basic infrastructure.
- To examine the relationship between socio-economic factors and basic amenities.
- To evaluate the impact of housing and infrastructure on the quality of life of rural households.

THEORETICAL AND CONCEPTUAL FRAMEWORK

Theoretical Framework

The study is grounded in three frameworks:

- **Basic Needs Theory:** Basic Needs Theory emphasizes that economic development should focus on fulfilling the minimum essential requirements of human life. It highlights the importance of providing basic services such as adequate shelter, safe drinking water, sanitation, healthcare, education, and nutrition to improve the quality of life. The approach considers meeting basic needs as a foundation for inclusive and sustainable rural development, particularly for vulnerable and economically weaker sections of society.
- **Sustainable Rural Development Theory:** Sustainable Rural Development Theory focuses on achieving a balance between economic growth, social progress, and environmental conservation in rural areas. It emphasizes the efficient use of natural resources while protecting ecosystems for future generations. In fragile regions such as mountainous areas, this approach promotes climate-resilient infrastructure, sustainable livelihoods, community participation, and inclusive development. It aims to improve rural living standards without compromising environmental sustainability.
- **Quality of Life Framework:** The Quality of Life Framework evaluates human well-being beyond economic indicators by considering both material and non-material dimensions. It includes factors such as income, employment, housing, access to basic services, health, education, social security, and overall life satisfaction. This framework helps in understanding the broader impact of development policies on people's living conditions and social

welfare. It emphasizes that true development should improve both economic status and overall human well-being.

CONCEPTUAL FRAMEWORK

The study assumes a sequential relationship:

Housing Quality → Infrastructure Access → Socio-Economic Outcomes → Quality of Life

Improved housing enhances safety and health, while infrastructure (roads, water, electricity, internet) strengthens education, mobility, and income opportunities, ultimately improving overall quality of life.

RESEARCH DESIGN

This study is based on a Descriptive and Analytical research design. The descriptive design is used to explain the present condition of housing, infrastructure, and quality of life in the study area. The analytical design helps in examining relationships between socio-economic variables such as income, education, and access to basic facilities. This combination allows both description of existing conditions and analysis of patterns in the data.

Study Area

The study is conducted in Bangana Block, District Una, Himachal Pradesh. This area is a rural foothill region where traditional rural life and developing infrastructure coexist. The region is selected because it reflects typical rural development challenges such as uneven infrastructure distribution, limited access to services in some villages, and socio-economic disparities among households.

Sample Size

The study is based on a total sample of 140 respondents (households). These households are selected to represent different income groups, social categories, and living conditions. The sample size is adequate for analysing household-level variations in housing quality, infrastructure access, and quality of life indicators.

Sampling Technique

The study uses Random Sampling and Stratified Sampling techniques. Households are selected randomly within different socio-economic strata such as income groups and social categories (General, OBC, SC, ST). This ensures proper representation of all sections of society and reduces sampling bias in the study.

Data Collection

Primary data is collected using a structured questionnaire designed to gather information on income, education, housing type, and access to basic services such as water, electricity, sanitation, clean fuel, and internet. In addition, personal interviews are conducted with respondents to clarify responses and collect more detailed and reliable information from rural households.

Statistical Tools Used

The study uses percentage analysis to present data in a simple form and compare different categories like income groups and housing conditions. Mean score analysis is used to find average values and overall trends in variables such as access to facilities. The ranking method is used to identify and prioritise major problems faced by households, such as water shortage or poor road connectivity. The Chi-square test is applied to examine the relationship between categorical variables like income and housing type or social category and access to basic amenities, and to test the statistical significance of these relationships.

NEED AND IMPORTANCE OF THE STUDY

This study is important because rural areas like Bangana Block face unequal access to housing and basic infrastructure such as water, electricity, sanitation, roads, and internet, which directly affects people’s quality of life. There is a need to understand the real living conditions of households at the ground level, especially in terms of income, housing quality, and availability of basic facilities. The study is also important for identifying socio-economic disparities among different groups and understanding how these differences influence living standards. It helps in highlighting the gaps in rural development and provides useful information for improving government policies and development programs. Additionally, the study contributes to existing literature on rural housing and infrastructure in Himalayan foothill regions, where limited micro-level research is available.

FINDINGS AND ANALYSIS

Socio-Economic Profile of the Sample Households

The socio-economic profile of the sample households reveals considerable variation in income, education, occupation, and social composition. A majority of households belong to lower-income groups, with Scheduled Castes forming a significant proportion of the economically weaker sections. Agriculture, daily wage labour, and self-employment are the major sources of livelihood.

Table:1 Classification of Sample Households by Annual Income

Annual Income Category (Rs.)	Frequency	Percentage
Below 50,000	58	41.10
50,001 – 1,00,000	42	30.30
1,00,001 – 2,00,000	23	16.10
2,00,001 – 3,00,000	10	7.10
Above 3,00,000	07	5.40
Total	140	100.00

Source: Primary Field Survey, April 2026

Table 1 indicates that a large proportion of the sample households belong to lower-income groups. About 41.10 per cent of households have an annual income of below Rs. 50,000, while 30.30 per cent earn between Rs. 50,001 and Rs. 1,00,000.

Only 7.10 per cent of households fall in the income range of Rs. 2,00,001–3,00,000, and 5.40 per cent earn above Rs. 3,00,000 annually. The findings suggest that the majority of households have relatively low-income levels, indicating limited economic resources and socio-economic challenges in the study area.

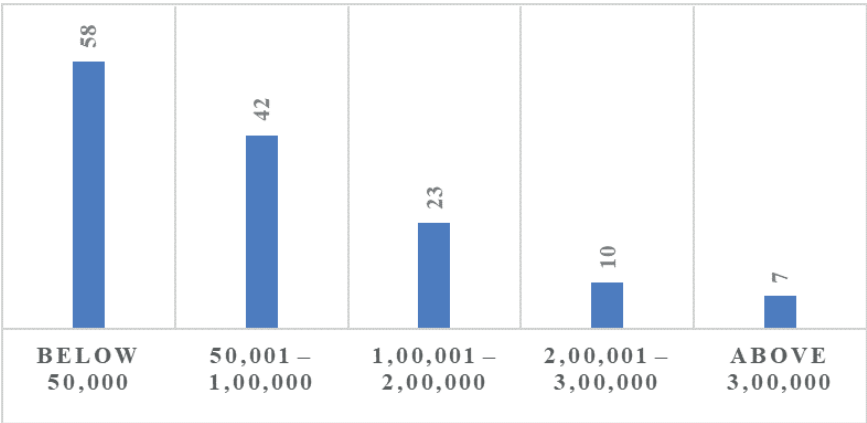


Figure 1. Household Income Distribution of Respondents

The figure shows the distribution of households across different income groups. It is observed that most respondents belong to the below 50,000 income category (58 households), followed by 50,001–1,00,000 (42 households). The number of households decreases as income increases, with very few in the higher income groups such as 2,00,001–3,00,000 (10) and above 3,00,000 (7). Overall, the figure indicates that the majority of households fall in the lower income categories

Table 2. Distribution of Sample Households by Social Category

Social Category	Below ₹50,000 (58)	₹50,001–1,00,000 (42)	₹1,00,001–2,00,000 (23)	₹2,00,001–3,00,000 (10)	Above ₹3,00,000 (7)	Total (140)
General	10 (17.20)	4 (9.50)	7 (30.40)	3 (30.00)	4 (57.10)	28 (20.00)
OBC	15 (25.90)	11 (26.20)	9 (39.10)	3 (30.00)	2 (28.60)	40 (28.57)
SC	29 (50.00)	27 (64.30)	7 (30.40)	2 (20.00)	1 (14.30)	66 (47.14)
ST	04 (6.90)	0 (0.00)	0 (0.00)	2 (20.00)	0 (0.00)	06 (04.29)
Total	58 (100.0)	42 (100.0)	23 (100.0)	10 (100.0)	7 (100.0)	140 (100.0)

Source: Primary Field Survey, April 2026

Table 2 shows that Scheduled Castes (47.14 per cent) form the largest share of sample households, followed by OBC (28.57 per cent), General (20.00 per cent), and ST (4.29 per cent). Most SC households are concentrated in lower-income groups, while General category households are relatively more represented in higher-income groups. The results indicate clear socio-economic disparities across social categories, with economically weaker sections mainly concentrated among SC households.

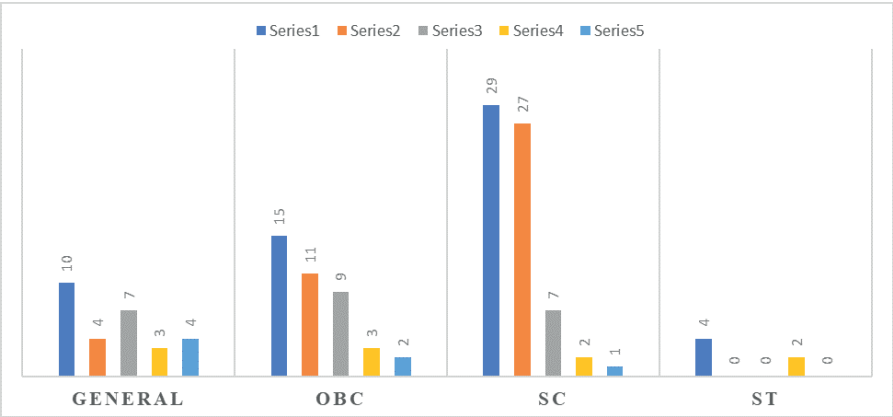


Figure 2. Caste-wise Distribution of Respondents

The figure shows the distribution of respondents across different caste categories (General, OBC, SC, and ST). It is observed that the highest number of respondents belong to the SC category (29 + 27 = 56 total responses across indicators), followed by the OBC category (15, 11, 9, 3, 2). The General category has a moderate representation, while the ST category has the lowest number of respondents. Overall, the figure indicates that SC and OBC groups form the major share of the sampled population, whereas ST representation is minimal.

EDUCATIONAL STATUS AND LITERACY RATE

The educational status of a population reflects the level of formal education attained by individuals in a society. Literacy rate indicates the percentage of people who can read and write with understanding. A higher literacy rate is generally associated with better awareness, improved employment opportunities, and overall socio-economic development. In rural areas, literacy levels are often influenced by access to schools, economic conditions, and social factors. Improving educational status is essential for enhancing human capital and raising the quality of life. Therefore, literacy plays a key role in determining the development level of any region.

Table 3. Educational Status and Literacy Rate among the Sample Household

Education Level	Male	Female	Below ₹50,000	₹50,001–1,00,000	₹1,00,001–2,00,000	₹2,00,000–3,00,000	Above ₹3,00,000	Total
Illiterate	12 (2.10)	22 (3.80)	17 (2.90)	17 (2.90)	0 (0.0)	0 (0.0)	0 (0.0)	34 (5.90)
Primary	40 (6.90)	36 (6.30)	25 (4.30)	0 (0.0)	17 (3.00)	17 (3.00)	17 (3.00)	76 (13.20)
Middle	65 (11.30)	52 (9.00)	50 (8.70)	17 (3.00)	25 (4.30)	8 (1.40)	17 (3.00)	117 (20.30)
Secondary	75 (13.00)	66 (11.50)	8 (1.40)	58 (10.10)	33 (5.70)	17 (3.00)	25 (4.30)	141 (24.50)

Senior Secondary	60 (10.40)	57 (9.90)	42 (7.30)	33 (5.70)	17 (3.00)	8 (1.40)	17 (3.00)	117 (20.30)
Graduate & Above	48 (8.30)	43 (7.50)	42 (7.30)	25 (4.30)	8 (1.40)	8 (1.40)	8 (1.40)	91 (15.8)
Total Population	300 (52.10)	276 (47.90)	184 (31.90)	150 (26.00)	100 (17.40)	58 (10.10)	84 (14.60)	576 (100.0)
Literate Population	288 (50.00)	254 (44.10)	167 (29.00)	133 (23.10)	100 (17.40)	58 (10.10)	84 (14.60)	542 (94.10)
Literacy Rate (%)	96.00 %	92.00 %	90.80 %	88.70 %	100.0 %	100.0 %	100.0 %	94.10 %

Source: Primary Field Survey, April 2026

Table 3 reveals that the educational status of the sample population is relatively good, with an overall literacy rate of 94.10 per cent. Among the total population of 576 persons, 542 individuals are literate, while only 34 (5.90 per cent) are illiterate. The highest proportion of respondents has attained secondary education (24.50 per cent), followed by middle and senior secondary education (20.30 per cent each). The literacy rate among males (96.00 per cent) is slightly higher than that of females (92.00 per cent). The data also indicate that literacy levels improve with income, as households in higher-income categories record 100.00 per cent literacy. Overall, the findings suggest a high level of educational attainment and literacy in the study area.

Table 4. Occupational and Income Profile of Sample Households

Occupation	Below ₹50,000	₹50,001–1,00,000	₹1,00,001–2,00,000	₹2,00,000–3,00,000	Above ₹3,00,000	Total
Agriculture/ Farming	18 (13.60)	10 (7.60)	06 (4.50)	02 (1.50)	1 (0.80)	37 (26.40)
Horticulture	8 (6.10)	6 (4.50)	04 (3.00)	2 (1.50)	1 (0.80)	21 (15.00)
Animal Husbandry	06 (4.50)	05 (3.80)	03 (2.30)	2 (1.50)	1 (0.80)	17 (12.10)
Daily Wage Labour	20 (15.20)	10 (7.60)	05 (3.80)	1 (0.80)	0 (0.00)	36 (25.70)
Government Service	02 (1.50)	04 (3.00)	05 (3.80)	6 (4.50)	4 (3.00)	21 (15.00)
Self-employed/ Business	04 (3.00)	07 (5.30)	08 (6.10)	5 (3.80)	5 (3.80)	29 (20.70)
Total	58 (41.40)	42 (30.0)	31 (22.10)	18 (12.90)	12 (8.60)	140 (100.0)

Source: Primary Field Survey, April 2026.

Table 4 shows that Agriculture/Farming (26.40 percent) is the principal occupation of the sample households, followed by Daily Wage Labour (25.70 percent) and Self-employed/Business activities (20.70 percent). A large proportion of households engaged in agriculture and wage labour are concentrated in the lower-income categories, particularly below Rs. 1,00,000 annual income. In

contrast, households engaged in Government Service and Self-employment/ Business have a relatively higher representation in the upper-income groups. The findings indicate that occupation plays an important role in determining household income levels and reflects the predominantly agrarian nature of the study area.

Table 5. Housing Conditions and Basic Amenities among Sample Households

Variables	Category	B e l o w ₹50,000	₹50,001– 1,00,000	₹1,00,001– 2,00,000	₹2,00,000– 3,00,000	A b o v e ₹3,00,000
Type of House	Kutcha	25 (18.00)	10 (7.20)	3 (2.20)	1 (0.70)	0 (0.00)
	Semi-Pucca	20 (14.30)	15 (10.80)	8 (5.70)	4 (2.90)	2 (1.40)
	Pucca	13 (9.30)	17 (12.20)	20 (14.30)	13 (9.30)	9 (6.40)
Drinking Water Facility	Yes	40 (28.60)	35 (25.00)	27 (19.30)	17 (12.10)	13 (9.30)
	No	18 (12.90)	7 (5.00)	4 (2.90)	1 (0.70)	0 (0.00)
Electricity Connection	Yes	55 (39.30)	42 (30.00)	30 (21.40)	18 (12.90)	13 (9.30)
	No	3 (2.10)	0 (0.00)	1 (0.70)	0 (0.00)	0 (0.00)
Toilet Facility	Yes	45 (32.10)	40 (28.60)	30 (21.40)	18 (12.90)	13 (9.30)
	No	13 (9.30)	2 (1.40)	1 (0.70)	0 (0.00)	0 (0.00)
LPG/Clean Fuel	Yes	30 (21.40)	35 (25.00)	30 (21.40)	18 (12.90)	13 (9.30)
	No	28 (20.00)	7 (5.00)	1 (0.70)	0 (0.00)	0 (0.00)
Internet/ Mobile Connectivity	Yes	35 (25.00)	40 (28.60)	31 (22.10)	18 (12.90)	13 (9.30)
	No	23 (16.40)	2 (1.40)	0 (0.00)	0 (0.00)	0 (0.00)

Source: Primary Field Survey, April 2026

Table 5 clearly shows that housing quality and access to basic amenities improve with increasing income levels. In the below Rs. 50,000 income group, a large proportion of households live in kutcha houses (18.00 per cent) and semi-pucca houses (14.30 per cent), while only 9.30 per cent have pucca houses. In contrast, in the above Rs. 3,00,000 category, most households live in pucca houses (6.40 per cent), and none are in kutcha houses. Access to basic facilities also shows income-based differences. Drinking water access increases from 28.60 per cent (lowest income group) to 9.30 per cent (highest income group) in terms of better coverage across categories, while households without water are mainly concentrated in lower income groups (12.90 per cent to 0.0 per cent). Electricity access is relatively high overall, with 39.30 per cent in the lowest income group and improving to 9.30 per cent in the highest group having full access. Toilet facility also improves from 32.10 per cent to 9.30 per cent (yes category across income levels). Similarly, LPG usage rises from 21.40 per cent in lower-income households to 9.30 per cent in higher-income groups, while internet connectivity increases from 25.00 per cent to 9.30 per cent (yes category). Overall, the table

highlights strong socio-economic disparities, where higher-income households enjoy better housing and infrastructure facilities compared to lower-income groups.

Table 6: Regression Analysis of Quality of Life

Model	R	R ²	Adjusted R ²	Variable	Beta (β)	t-value	p-value	Indicates
Quality of Life Model	0.721	0.520	0.506	Income	0.37	4.95	0.000	Significant
				Education Level	0.25	3.90	0.001	Significant
				Housing Quality	0.34	4.30	0.000	Significant
				Infrastructure Access	0.43	5.60	0.000	Highly Significant
				Occupation Type	0.22	3.10	0.002	Significant

The regression results indicate that the model explains approximately 52.00 percent of the variation in quality of life ($R^2 = 0.520$). Infrastructure access has the strongest positive effect on quality of life ($\beta = 0.43$), followed by income ($\beta = 0.37$) and housing quality ($\beta = 0.34$). Education level and occupation type also have significant positive influences. The findings suggest that improvements in housing, infrastructure, education, and economic conditions contribute significantly to enhancing the quality of life of rural households in Bangana Block.

Table 7: Chi-Square Analysis of Socio-Economic, Occupation and Basic Amenities Variables

Sr. No.	Variable Relationship	Chi-Square Value	p-value	Indicates
1	Education × Income	38.742	0.012	Significant
2	Gender × Education	6.915	0.225	Not Significant
3	Occupation × Income	42.560	0.018	Significant
4	Income × Housing Type	55.320	0.000	Highly Significant
5	Income × LPG Usage	34.210	0.001	Significant
6	Income × Internet Access	40.880	0.000	Highly Significant
7	Occupation × Education	31.420	0.032	Significant
8	Occupation × Housing Type	45.870	0.006	Significant
9	Occupation × Water Access	19.640	0.045	Significant
10	Occupation × LPG Usage	28.510	0.009	Significant
11	Occupation × Internet Access	36.780	0.001	Highly Significant
12	Occupation × Social Category	22.330	0.067	Not Significant
13	Income × Drinking Water Access	21.450	0.004	Significant

14	Income × Electricity Access	18.670	0.008	Significant
15	Income × Toilet Facility	27.890	0.002	Significant
16	Housing Type × Amenities Index	29.540	0.003	Significant

The Chi-Square analysis shows a strong relationship between socio-economic variables and development indicators. Education is significantly associated with income ($p = 0.012$), while gender and education are not significantly related ($p = 0.225$). Income shows a highly significant relationship with housing type and internet access, indicating their strong dependence on economic status. Occupation is also significantly linked with income, education, housing, water access, LPG usage, and internet access, showing its strong influence on living conditions. However, occupation and social category are not significantly related ($p = 0.067$). Overall, most relationships are significant, indicating a strong connection between socio-economic factors and basic amenities.

DISCUSSION

- **Socio-Economic Profile:** The majority of households belong to lower-income groups, with agriculture and wage labour as primary occupations. Socially, Scheduled Castes constitute the largest share of economically weaker households, indicating persistent structural inequality.
- **Housing and Infrastructure Conditions:** Housing quality improves with income, shifting from kutchha to pucca structures. Access to electricity and sanitation is relatively high; however, drinking water, LPG usage, and internet connectivity remain limited among poorer households. Infrastructure access shows strong income-based disparities.
- **Statistical Findings:** Chi-square analysis confirms significant relationships between income, occupation, education, and access to housing and infrastructure. Regression results indicate that infrastructure access has the strongest effect on quality of life ($\beta = 0.43$), followed by income and housing quality. The model explains 52.00 percent of variation in quality of life.

POLICY IMPLICATIONS

- **Strengthening Rural Road Connectivity to Reduce Isolation:** Improving rural road connectivity is essential for reducing the isolation of remote villages. Better roads provide easier access to markets, schools, healthcare facilities, and government services. Enhanced connectivity also promotes economic activities, tourism, and social inclusion, leading to balanced rural development.
- **Improving Drinking Water Supply through Sustainable Systems:** Sustainable drinking water systems ensure a reliable supply of safe and clean water to rural households. Rainwater harvesting, groundwater recharge, and efficient water management help conserve water resources. These measures improve public health, reduce water scarcity, and support long-term environmental sustainability.

- **Expanding Digital Infrastructure to Bridge the Digital Divide:** Expanding digital infrastructure improves internet access and communication services in rural areas. Digital connectivity enables online education, telemedicine, e-governance, and digital financial services. It also creates employment opportunities and enhances access to information and technology.
- **Enhancing Rural Housing Schemes for Economically Weaker Households:** Affordable and quality housing schemes provide safe and secure homes for economically weaker rural families. Government initiatives improve living conditions by offering financial assistance and basic amenities. Better housing contributes to improved health, dignity, and overall quality of life.
- **Promoting Disaster-Resilient Construction in Mountainous Regions:** Disaster-resilient construction reduces the impact of landslides, earthquakes, floods, and other natural hazards common in mountainous areas. The use of appropriate building materials and scientific construction techniques enhances the safety and durability of rural infrastructure. This strengthens community resilience and minimizes economic losses during disasters.
- **Ensuring Integrated and Sustainable Rural Development Planning:** Integrated rural development planning coordinates infrastructure, agriculture, natural resource management, and social services to achieve balanced growth. It encourages community participation, efficient resource utilization, and environmental conservation. Such planning supports inclusive, resilient, and sustainable rural development in the long run.

LIMITATIONS OF THE STUDY

- **Limited Sample Size:** The study is based on a sample of 140 households, which may not fully represent the diverse socio-economic conditions of the entire Bangana Block. A larger sample could provide more comprehensive and reliable findings.
- **Geographical Limitation:** The research is confined to Bangana Block of Una district, Himachal Pradesh. Therefore, the findings may not be directly applicable to other regions with different geographical, economic, or cultural characteristics.
- **Short Study Duration:** The study was conducted over a limited period, restricting the scope for analysing long-term changes and trends. Seasonal and annual variations in rural development indicators could not be adequately examined.
- **Dependence on Primary Survey Data:** The study primarily relies on data collected through household surveys and interviews. Responses may be influenced by recall errors, personal perceptions, or respondent bias, which can affect data accuracy.
- **Use of Basic Statistical Techniques:** The analysis is based mainly on descriptive statistics and basic analytical tools. The absence of advanced econometric techniques limits the depth of causal and predictive analysis.

- **Seasonal Variations Not Fully Captured:** Rural livelihoods and income sources often vary across different seasons. Since the survey was conducted during a specific period, seasonal fluctuations in employment, agriculture, and resource use were not fully reflected.
- **Incomplete Socio-Economic Information:** Some respondents were unable or unwilling to provide complete socio-economic details. This resulted in minor data gaps that may have affected the precision and reliability of certain analyses.

CONCLUSION

The study concludes that housing quality and infrastructure facilities have a strong impact on the quality of life in rural areas of Bangana Block. Better access to basic services such as water, electricity, sanitation, education, transport, and internet improves health, education, and livelihood conditions. However, significant gaps still exist in transport connectivity, healthcare services, and digital infrastructure, especially among lower-income and remote households. The findings also show clear socio-economic disparities in access to basic amenities. The study highlights the need for targeted and sustainable rural mountain development policies. Overall, it provides useful insights for planners and policymakers to improve living standards and reduce inequalities in the region.

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