

# Bridging the Mountains: Assessing the Impact of MGNREGA on Financial Inclusion in Spiti Valley, Himachal Pradesh

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## **Abstract**

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was rolled out as a wage employment program in 2005 to assist families whose adult members are willing to engage in unskilled manual labor, by providing them with guaranteed wage employment for at least 100 days each year. One of the desirable goals of this act was to improve financial accessibility and inclusion. This study aims to find how this act has impacted financial inclusion for rural households in the remote Spiti Valley of Himachal Pradesh. To understand this, we used a mix of qualitative and quantitative research methods, including surveys, interviews, and econometric analysis. The main motivation behind the study was to determine whether households' financial habits, savings habits, financial literacy, and access to financial services have been affected in any way as a result of participating in the program. The analysis revealed that in this region, though this act did help improve financial inclusion to some extent, low literacy levels, infrastructural hurdles, and lack of banking services continue to hamper the process. In light of these findings, we propose some policy recommendations and interventions to enhance financial access and inclusion, and to deal with the existing challenges in this high-altitude tribal region.

**Keywords:** MGNREGA, Financial Inclusion, Financial literacy, Financial access.

## **1. INTRODUCTION**

Spiti Valley is a mountainous region situated in the northeastern part of Himachal Pradesh. The existence of extreme physiographic conditions makes livelihoods difficult in the region. The area is economically vulnerable due to factors such as extreme weather events, limited accessibility, lack of proper infrastructure (physical as well as digital), and heavy reliance on traditional social institutions. The lack of proper saving mechanisms and limited interaction between people residing in the region and the formal financial system further weighs down the situation.

MGNREGA is a government program that guarantees 100 days of wage employment in a year for households in rural areas where at least one member is willing to do unskilled manual work. Under this Act, wage payments are mandated to be made directly into bank or post office accounts. Thereby linking its main objectives of providing wage employment with the broader objective of financial inclusion, that is, to ensure that financial services are made easily available and accessible to all sections of society; especially the most vulnerable sections thereof.

Various research papers have examined the impact of MGNREGA in promoting financial inclusion across

different Indian states. However, the effectiveness of this act in actually promoting financial inclusion in remote and high-altitude areas such as Spiti has been barely discussed by the academic community and remains underexplored. This study attempts to fill this gap by assessing how participation in this act influences financial inclusion among rural households in Spiti Valley, Himachal Pradesh. The data were gathered through household surveys (n=210) and qualitative interviews. Sample selection was done using a stratified random sampling method across the four Panchayats of Spiti Valley: Kaza, Tabo, Dhankar, and Losar.

## **2. Review of Literature**

In the last twenty years, especially since the early 2000s, financial inclusion has become a policy priority in India. Initially, the aim was simply to ensure that everyone had a bank account. Gradually, concerns extended beyond mere ownership of bank accounts to usability, affordability, service quality, and the trust people place in such institutions (Sarma, 2008). RBI's Annual Report (FY 24) underscores that financial inclusion enhances economic growth, improves household resilience, increases national savings and drives inclusive development.

MGNREGA was primarily introduced in 2005 as a rural employment scheme. The unique aspect of MGNREGA is that its linkage to formal financial channels for disbursement of wages has the potential to position it as an avenue for financial inclusion in the future. This interrelationship, as regards the effects of MGNREGA on financial inclusion, has been researched by several scholars. Srivastava and Sharma (2017) concluded that the MGNREGA has advanced financial inclusion in rural India. Although financial inclusion wasn't the main objective, mandatory bank-linked wage payments expanded rural poor households' access to formal financial institutions, thereby integrating them into the financial mainstream.

Sangwan (2014) researched the financial behavior of people in rural Punjab and noted that while ownership of bank accounts increased as a result of participation, the intended benefits were undermined because of very high dependence on intermediaries, lack of trust in institutions, and lack of grievance redressal systems.

Indrakant (2015) used the CRISIL Inclusix Index to study the status of financial inclusion in Andhra Pradesh and held that even with a near 100% implementation of MGNREGA, there still existed regional disparity in the outcomes of financial inclusion. The study further discussed that the major constraints imposed on financial inclusion were transactional hindrances and uneven banking outreach across areas. Jean Dreze in 2007 pointed out leakages associated with this program in western Orissa. Instead of helping the designated target group, the program had become yet another route for the stronger sections to engage in corruptive practices.

The study on the implementation of the scheme was carried out by Arun et al. (2006) in the Palakkad district of Kerala and it concluded that while by and large corruption-free and reasonably just, the implementation needs to be focused more effectively on meeting the long-term goals of the state and its people.

Bassi and Saluja (2017) studied two villages in Punjab and identified severe ground-level barriers to financial inclusion under MGNREGA such as account dormancy, delays in wage payment, illiteracy, misappropriation by intermediaries, and infrastructural failure.

Both studies stressed that, to foster financial inclusion, having a bank account is a necessary condition that must be supplemented by other sufficient conditions, such as timely payment of wages, financial literacy,

and accountability by institutions.

Panigrahi and Sahoo(2024) conducted one such study in the Rayagada district of Odisha, using fixed-effects econometric modelling. The study revealed that MGNREGA participation improved the financial behavior and saving habits specially of women and Scheduled Tribe population. The authors stressed timely and regular flow of wages as a means of promoting saving habits and retaining money within formal banking channels.

Most research in this area points to a few main ideas: First, MGNREGA really helps bring more people into the financial system through direct benefit transfers. Second, things like regional differences, social factors, and infrastructure issues can influence how well it works. Third, strong local governance is essential for making the most of financial services.

Recent studies highlights the importance of financial inclusion in developing rural areas and fighting poverty. However, the literature on financial inclusion remains largely untouched in the high-altitude tribal regions like Spiti Valley. The geographical isolation of this region, the extreme climate, and logistical problems make it an ideal case to evaluate the real reach and limitations of national programs like MGNREGA. The present study seeks to fill that research gap with a regionally attuned analysis of financial inclusion in Spiti.

### 3. Objectives

**The objectives of the study are:**

- To study the existing financial inclusion status of the rural households in the Spiti Valley.
- To evaluate the extent of influence of MGNREGA participation in accessing and using formal financial services.
- To analyze the financial behavior (savings, credit, insurance) of beneficiaries after participating in MGNREGA.
- To find major institutional and geographical barriers hampering financial inclusion in the region.

### 4. Hypotheses

- **H1:** Rural households' access to formal financial institutions in the region has increased as a result of participation in MGNREGA.
- **H2:** A significant and positive relationship exists between MGNREGA wages and savings and credit behavior of the households.
- **H3:** Even if households have bank accounts, effective financial inclusion is still impeded by operational and infrastructural barriers.

### 5. Methodology

#### 5.1 Research Framework

To investigate the relationship between MGNREGA and financial inclusion in Spiti Valley and to effectively capture both the numbers and the real-life challenges faced by rural households, a convergent mixed-methods design (combining qualitative and quantitative methods) was implemented.

Demographic data related to income levels, employment status, savings behavior, and participation in MGNREGA for 210 sample households were collected through a structured, pre-tested questionnaire (see Appendix A).

For capturing the real-life experiences, 15 beneficiaries of the MGNREGA were interviewed in-depth,

besides interviewing 5 elected representatives of the Panchayat.

## Conceptual Framework

The study is guided by a conceptual framework outlining how different variables interact to affect financial inclusion in the region.

- Independent Variables-Participation in MGNREGA, Wage level under MNREGA, Level of education
- Moderators-Financial Literacy, Access to Infrastructure
- Dependent Variable-Financial Inclusion Index (FII)

## 5.2 Study Area and Sampling Technique

To properly depict the spatial distribution of population and differing levels of MGNREGA implementation within the Valley, four Panchayats of Spiti Valley: Kaza, Tabo, Dhankar and Losar, were chosen and fieldwork was conducted accordingly.

The Scheduled Tribe (ST) population being predominant in the region provides some socio-cultural insights to the study.

A stratified random sampling method was used whereby first the population was divided into strata based on caste (ST, SC, OBC, General), gender, and education levels. Thereafter, a total of 210 households were chosen randomly with a proportional representation from each stratum in order to carefully reflect all key social groupings and touch upon the real diversity of the community.

## 5.3 Methods of Data Analysis

### Quantitative (Statistical) Analysis

- Respondents were profiled by their socio-economic background and financial behavior using descriptive statistics.
- Multiple Linear Regression was conducted to find the relation between the dependent variable (Financial Inclusion Index) and the independent variables (MGNREGA participation, wage levels, and education level).
- Chi-square test was used for analyzing the relationships between categorical variables (wage delays and account usage).
- All statistical analyses were conducted using SPSS software.

### Qualitative Analysis

- For undertaking thematic analysis, the interview transcripts were coded using NVivo software.
- The purpose of the thematic analysis was to find common recurring patterns in the challenges faced by the participants, their usual behaviors, and their institutional experiences.

## 5.4 Construction of Financial Inclusion Index (FII)

The Financial Inclusion Index (FII) was constructed using four binary components:

Indicator	Description	Scoring (0 or 1)
Account Ownership	Has bank/post office account	1 = Yes, 0 = No
Account Usage	Uses account beyond MGNREGA wages	1 = Yes, 0 = No
Credit Access	Applied for KCC or any formal credit	1 = Yes, 0 = No
Risk Management	Has insurance or pension	1 = Yes, 0 = No

FII was calculated as:

**FII=Sum of Indicators/4**

This normalized score (0–1) was used as the dependent variable in regression models.

## 5.5 Ethical Considerations

Given the high proportion of illiterate participants, special care was taken in informing the purpose of the study to all the respondents. Prior verbal consent was obtained from the participants, making the participation voluntary, and respondents were free to withdraw at any point. During the analysis and reporting, confidentiality of data was properly ensured.

## 6. Results and Analysis

### 6.1 Socio-Demographic Profile of Respondents

**Table 1: Socio-Economic Profile of Respondents**

Attribute	Category	Count	Percentage
Gender	Male	130	62%
Gender	Female	80	38%
Education	No Formal Education	118	56%
Education	Primary	61	29%
Education	Secondary and above	31	15%
Caste	Scheduled Tribe	127	60.5%
Caste	Others (General, SC,OBC)	83	39.5%

#### Key Observations:

- Most of the respondents were male: 62% male and 38% female respondents.
- Most of the respondents were from the ST category- Scheduled Tribe (ST) respondents were 60.5%.
- 56% of the respondents had no education, 29% had primary education, while only 15% possessed secondary education or above, indicating the prevalence of low levels of education in the region.

### 6.2 Testing Hypothesis 1 (H1) and Hypothesis 2 (H2)

**Table 2: Account Ownership and Usage**

Indicator	All Respondents	MGNREGA Participants	Non-Participants
Have Bank/Post Office Account	89% (187)	96%	69%
Use Account Beyond Wage Withdrawal	42% (88)	48%	23%

Indicator	All Respondents	MGNREGA Participants	Non-Participants
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Table 3: Financial behavior among MGNREGA beneficiaries	
Behaviours	Percentage Reporting Behavior
Started Saving Habit	37%
Applied for KCC	16%
Purchased Insurance	8%
Regular ATM Usage	28%

A multiple linear regression was conducted with Financial Inclusion Index (FII) as the dependent variable and MGNREGA participation, wage levels, and education as independent variables. Results of the regression analysis are as follows-

### Regression Analysis: Financial Inclusion Index (FII) as DV

Predictor	Coefficient ( $\beta$ )	Std. Error	t-value	p-value
MGNREGA Participation	0.162	0.078	2.08	0.041 *
MGNREGA Wage	0.223	0.096	2.32	0.028 *
Education Level	0.189	0.065	2.91	0.004 **

**Hypothesis 1 (H1):** "Rural households' access to formal financial institutions in the region has increased as a result of participation in MGNREGA"

#### Interpretation:

The  $\beta$  coefficient in this case is 0.162, with p value 0.041 so the regression analysis shows that there seems to be a statistically significant relationship between MGNREGA participation and bank account ownership. Therefore, we can assume that with MGNREGA involvement, households will be more likely to have a bank or post office account than without it.

**Quantitative evidence:** Coming to the quantitative aspect, in the survey, about 89% of people had a bank/post office account. MGNREGA members were 27% more likely to hold an account than non-members. This occurred because payments under MGNREGA rules need to be made through banks or post offices, and thus, individuals had to open accounts to receive their payments.

However, usage remains low as only 42% of respondents actively use the accounts they have opened, with most of these people using the accounts only for wage withdrawals and not for savings, credit, or insurance. Thus confirming "access without agency" i.e., accounts were opened but not integrated into everyday financial life.

**Qualitative evidence:** From interviews, villagers stated that they opened accounts either under pressure or through the help of others, but did not understand the use of these accounts independently. These accounts have been opened with the help of panchayat-led camps. Also, most likely, social pressure (e.g., threat of losing benefits) may push people to open a bank account, but it overlooks the fact that without adequate financial literacy, access alone does not translate into inclusion.

"We opened the bank account because the panchayat said we had to, but I still don't know how to check



the balance.” – Female respondent, Tabo

**Hypothesis 2 (H2):** “A significant and positive relationship exists between MGNREGA wages and savings and credit behavior of the households.”

**Interpretation:**

The regression coefficient of  $\beta = 0.223$ , accompanied by a p-value = 0.028, confirms the association between higher MGNREGA wages and better financial behaviors like increased savings and credit engagement.

- 37% of the beneficiaries reported that consistent MGNREGA payments via DBT significantly improved their saving habits.
- 16% of them applied for Kisan Credit Cards, while 8% availed of insurance services.
- 28% of them reported regular usage of ATM services, which indicates that basic banking services are becoming easier to use.

Considering the sparse economic conditions of the valley, these findings particularly become significant as they indicate that MGNREGA wages serve as an important channel for ensuring income consistency, which helps families with proper and effective allocation of their resources, and saving funds.

## 6.3 Barriers to Functional Inclusion (Testing Hypothesis H3)

**Table 4: Reported Barriers to Financial Inclusion**

Barrier Type	Specific Barrier	% Respondents
Operational	Delayed Wage Payments	41%
Social/Cultural	Not Authorized to Withdraw Own Money	34%
Linguistic	Language Barriers in Forms (Hindi Only)	18%
Infrastructure	Only One Bank/Post Office in Entire Valley	100%

### Chi-Square Analysis: Wage Delays and Bank Usage

Variable	$\chi^2$ Value	Df	p-value
Wage Delay vs Account Usage	14.63	1	0.00012 **

**Hypothesis 3 (H3):** “Even if households have bank accounts, effective financial inclusion is still impeded by operational and infrastructural barriers.”

**Interpretation:**

Results of the Chi-square analysis ( $\chi^2 = 14.63$ ,  $df = 1$ ,  $p = 0.00012$ ) indicate that a statistically significant relationship exists between delayed MGNREGA wage payments and a lesser incidence of bank usage. This shows that wage delays are closely linked to how (and how often) people use their bank accounts, indicating a direct effect of operational issues on financial inclusion.

Even though most respondents own bank accounts existence of operational and infrastructural barriers limits the functional financial inclusion.

- 41% of the respondents went through wage delays continuing for about 45-60 days.
- 34% were not allowed to self-withdraw their money, indicating that even though the bank account is in their name, access is controlled by someone else (like a family member or a banking agent).
- 18% reported language barriers since all banking forms were in Hindi.

- Physical access is the major issue: one bank and one post office exist for a whole valley.

**Qualitative insights:** Many elderly women among the respondents said they depended upon their children, neighbors, and members of the Panchayat for withdrawal. People also feel that "machines" or "unknown deductions" could make them lose their money. Also, winter road closures and erratic connectivity make even a willing user unable to approach a financial institution regularly.

"We depend on children or the Panchayat to help us withdraw. I don't know the process." – Older woman, Losar

"My daughter helps me withdraw money using the ATM card. I don't know how to use the machine." – Elderly respondent, Dhankar

"Sometimes the balance is less than expected. I feel the bank is cutting money, but I don't understand why." – Male respondent, Kaza

## 6.4 Synthesis of Findings

**Table 4: Summary of Hypothesis Testing**

Hypothesis	Focus	Result	Statistical Evidence
H1	Access to Financial Institutions	Supported: Higher account ownership	$\beta = 0.162, p = 0.041 *$
H2	Financial Behavior (savings, credit)	Supported: Modest but significant improvements	$\beta = 0.223, p = 0.028 *$
H3	Barriers to Functional Inclusion	Supported: Usage constrained by structural gaps	$\chi^2 = 14.63, p = 0.00012 **$

The study indicates that access to finance exists through MGNREGA, but it is not a guarantee for financial inclusion. Almost 90 percent of the respondents had accounts; however, only 42 percent used them for purposes beyond the withdrawal of wages. Thus, even though a policy can succeed in attaining coverage, it may not be a guarantee of empowerment. Financial inclusion in Spiti is presently structural and not functional. It will take time to have true inclusion without better delivery systems, financial literacy, and accessible infrastructure.

## 7. Discussion

In Spiti, though MGNREGA has opened pathways to formal financial systems, there exist systemic barriers related to language, connectivity, financial and digital illiteracy and weather extremes that limits the program's potential and hampers its viability.

**Financial Access vs. Financial Usage:** On one hand, MGNREGA has increased financial access in Spiti by encouraging people to open bank accounts; on the other hand the financial usage remains low i.e., the accounts are not utilized for broader purposes like savings, investment and credit assessment. Our study shows that only 42% of the respondents use their accounts for purposes other than receiving and withdrawing wages.

**Role of Education and Awareness:** The level of education was seen to exert a significant influence on financial behaviors. The more respondents had been educated to at least the primary level, the more likely they would use financial services. Qualitative interviews supported this claim, as it was reported during the interviews that among the illiterate, many workers were dependent on middlemen or family members to access their accounts and financial services.



**Systemic Barriers:** Qualitative data confirm that wage delays discourage the use of banks. Other problems cited by local officials regarding wage processing under MGNREGA are those related to connectivity, winter closure, and shortage of manpower. These institutional barriers emerged as key bottlenecks in the transition from access to usage.

**Cultural and Social Dynamics:** In Spiti, community-based lending and saving systems are still the mainstay of financial behavior. While institutional trust in banks is relatively new, some beneficiaries feared losing money in the bank, while others had never even heard of the formal procedures involved.

**Operational Challenges:** Lack of bank branches and ATMs, along with seasonal inaccessibility, hinders the timely redressal of grievances and also timely disbursement of wages. Women's SHGs have started working in this area, particularly near Kaza, but they need strong institutional support.

## 8. Policy Implications

From the empirical and qualitative findings of this study, policy measures have been recommended to strengthen financial inclusion efforts through MGNREGA in the Spiti Valley. These include:

### A. Interventions at Local Level

1. **Financial Literacy Campaigns:** In order to raise awareness of basic financial topics such as the importance of savings, ATM and mobile banking usage, and the working of grievance redressal mechanisms, campaigns should be organized using community radios, schools, colleges and religious centers.
2. **Mobile Banking Vans:** Such vans can be deployed in remote areas where there are few physical bank branches, making it easier for customers to access banking facilities and products.
3. **Acknowledging the Role of SHGs:** In these remote areas, where the literacy rate is low, SHGs can work as banking correspondents for illiterate people and assist them in managing their financial operations.
4. **Regular Social Audits of MGNREGA:** Such audits will help evaluate the effectiveness of the scheme and the problems related to wage payments

### B. Interventions at State-Level

1. **Infrastructure development:** Since most of these remote regions lack basic physical and digital infrastructure, more funds should be allocated for this purpose.
2. **Flexibility in MGNREGA calendar:** Working calendar of MGNREGA should be rearranged to coincide with the climatic conditions prevailing in the valley. Jobs should be provided, and payments processed during those months when roads are in fairly good condition and access to banks is possible.
3. **Trained professionals:** Well-trained rural development and bank officials should be made available in these regions to make people well-versed in financial services.
4. **Monitoring Cell:** To oversee financial inclusion indicators in these areas, an independent state-level monitoring cell should be set up. It should be responsible for publishing periodic reports on the same.

### C. Interventions at central level

1. **Customization of Policies for Special Zones:** Areas such as Spiti should be categorized as special zones and they should be brought under special provisions of MGNREGA. Guidelines related to financial inclusion for these special zones should be issued, keeping the specific needs of the region in view.
2. **Integrating IPPB (India Post Payments Bank) with digital infrastructure:** This will facilitate effective

delivery of mobilized services and link rural villages with a broad range of financial services covering pensions, insurance, and subsidy transfers.

3. One Nation One Grievance Portal: A multilingual centralized grievance redressal portal, easily accessible via mobile phone, should be launched to provide an environment where any member of the public can register their complaints without facing any language barrier.
4. Performance-Based Incentives: Rewards in kind or in the form of cash should be given to Panchayats and their respective bank branches which succeed in achieving 100 percent functional financial inclusion in their area.
5. National Tribal Inclusion Index: A composite index mapping financial inclusion progress in tribal areas should be developed to inform and prioritize policy decisions.

## 9. Conclusion

According to the study, in Spiti Valley, MGNREGA participation clearly emerges as a determinant of enhanced access to formal financial services, making it a vehicle for promoting financial inclusion in such high-altitude remote regions. This finding reiterates the notion that positive societal change is possible by linking employment programs and goal of enhancing financial inclusion. However, it was noted that in remote areas such as Spiti, wage payment delays, inactive bank accounts, institutional distrust, and infrastructure gaps hamper the broader transformation from mere bank account ownership to active engagement with the formal financial system. Therefore, in order to succeed, access along with sustained engagement and empowerment is required. In accordance with the study findings, policy interventions need to be sensitive to the local context. Considering the climatic and cultural conditions of Spiti, locally initiated adaptive strategies, based on decentralization, community engagement, and institutional innovations, plus some measure of administrative will and systemic adaptation are required to ultimately deal with financial inclusion issues in Spiti. MGNREGA can be fine-tuned to act not only as a tool for strengthening rural assets but also for nurturing resilient and self-reliant citizens in the farthest regions of India.

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