



# ASSESSING THE DYNAMICS OF AGRICULTURAL CREDIT FLOW IN HIMACHAL PRADESH

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**Abstract :** This research paper provides a comprehensive analysis of the evolving dynamics of agricultural credit distribution among various banking institutions over a specified period in the northern Indian state of Himachal Pradesh. Himachal is a hilly state where agriculture plays a pivotal role in the state's economy, employment generation and development of people life. Examining data on Compound Annual Growth Rates (CAGRs) and percentage shares, the study highlights significant shifts in the contribution of Public Sector Commercial Banks, Regional Rural Banks, Cooperative Banks, and Private Sector Banks to the agricultural credit landscape. Notably, Public Sector Commercial Banks remain the chief source, contributing 46% of the total disbursement in 2022-23. The correlation matrix establishes a robust and statistically significant positive relationship between total agricultural credit and the number of bank branches, emphasizing the pivotal role of banking outreach in facilitating credit disbursement. A detailed examination of banking outreach in Himachal Pradesh reveals a strategic shift in branch distribution towards semi-urban areas, with correlations confirming the strong link between credit availability and expanding banking infrastructure. The overall positive trajectory of agricultural credit, with a consistent annual growth rate of 10.395%, reflects intentional efforts to support non-farm sectors, notably MSMEs. Economic parameter indicators illustrate a deliberate push to enhance the role of agricultural credit in the state's economic landscape. The analysis extends to the correlation between Bank Branches, Kisan Credit Cards (KCC), and Agriculture credit, revealing a significant positive impact on credit flow with increased bank branches and KCC adoption. The KCC analysis indicates a positive trend in credit disbursed through Kisan Credit Cards, despite variations in the percentage of loans distributed.

**IndexTerms -** Agriculture credit, Himachal Pradesh, Sustainable agriculture, Productivity of agriculture. Kisan Credit Cards (KCC), Financial Inclusion, Banking Outreach

## Introduction

Himachal Pradesh is nestled in the foothills of the Himalayas. It characterized by diverse agro-climatic conditions, resulting in agriculture being made a significant contributor to its economy. Agriculture is the backbone of Himachal Pradesh's economy, as it is contributing significantly to the state's growth, sustaining livelihoods and fostering rural development. According to economic survey, 2022-23 of H.P. agriculture and allied sectors have redistricted a growth rate of 3.3 per cent in FY2020-21, 3.0 per cent in FY2021-22 and expected to grow by 3.5 per cent in 2022-23 Advance Estimates (AE). Approximately 57.03 percent of the population relies on agriculture and its related sectors, according to the findings of the Periodic Labour Force Survey (PLFS) for the fiscal year 2021-22. This vital sector contributes 13.70 percent in total SGVA and 57.03 percent in total employment generation as per economic survey, 2022-23 of H.P. The success of agricultural activities is intricately tied to the availability and accessibility of different inputs for the agriculture technological change and technical efficiency (Kumar, V., 2022).

The dynamics of agricultural credit refer to the various factors, processes, and interactions that influence the flow and utilization of credit in the agricultural sector. These dynamics are multifaceted and can vary across regions and countries. The effective flow of credit within the agricultural sector is crucial for farmers to

invest in these inputs, adopt modern technologies, and enhance productivity. With the transformation of agriculture sector from traditional toward commercialization demand for capital is increasing (Sidhu, Vatta & Kaur, 2008). Agriculture credit in Himachal Pradesh is a crucial component that facilitates farmers' access to financial resources, enabling them to invest in modern farming techniques, purchase inputs, and cope with the uncertainties of agriculture.

Institutional agricultural credit has played a pivot role in helping farmers use modern farming methods and encouraging private investments in agriculture. This is achieved by providing adequate credit. The main objective of agricultural credit policies is to ensure that farmers can access enough credit at low-interest rates when they need it. Recognizing the importance of the institutional credit for the agriculture sector government take many policy measure to enhance the flow of credit to agriculture. Government builds a vast network of institutions comprising commercial banks, RRBs' and cooperatives. After the Rural Credit Survey of 1954, the institutional agricultural credit policy has gone through various changes to achieve its goals. These changes involved reinforcing existing institution structure such as cooperative credit structures, nationalization of commercial banks, establishing new ones like Regional Rural Banks (RRBs) and the National Bank for Agriculture and Rural Development (NABARD). The importance of institutional credit in the economic wellbeing of farm households is well documented (Narayanan 2016). If farmers do not have access to this kind of credit, it can adversely affect the adoption of modern technology and capital formation for the need for their farms Ranguwal, S. & Kaur, P., 2022). Additionally, new approaches to agricultural lending were developed, including the service area approach, priority sector lending and the kisan credit card. Making lending procedures simpler played a crucial role in facilitating the entire process. By streamlining the steps involved in providing agricultural credit, it became easier for farmers to access the financial support they needed. Simplifying these procedures was a strategic move to enhance efficiency and ensure that farmers could navigate the lending process more smoothly.

The topography and agro-climatic conditions of Himachal Pradesh present unique challenges and opportunities for the farming community. With a significant focus on horticulture, floriculture, and traditional crops, the state's farmers require tailored financial solutions to address their specific needs. Elias *et al.* (2015) emphasized that ensuring the availability of agricultural credit for small and marginal farmers is synonymous with securing the country's food supply. In simple terms, supporting these farmers with credit is vital for ensuring the nation's food security. Recognizing this, the government and financial institutions have collaborated to design and implement agriculture credit policies that cater to the diverse agricultural landscape of the region. Farmers in Himachal Pradesh have access to various credit sources, including commercial banks, Regional Rural Banks, Cooperative banks. These credit facilities aim to empower farmers by providing them with timely and affordable financial assistance. Additionally, initiatives such as Kisan Credit Cards (KCC) have been instrumental in simplifying the credit delivery process, offering farmers a comprehensive financial tool to meet their short-term credit requirements. Agriculture credit in the state serves as a catalyst for agricultural growth, rural development, and poverty alleviation. The funds provided through these credit channels support farmers in adopting advanced farming practices, acquiring modern machinery, and investing in sustainable agricultural practices. Furthermore, these financial interventions contribute to the overall economic development of the state by enhancing productivity, increasing employment opportunities, and promoting inclusive growth in rural areas.

### Objectives of the study:

1. To Evaluate Ground Level Credit (GLC) Flow in HP.
2. To analyze the Trends and Patterns in Agriculture Credit in H.P.
3. To analyze the Impact of Credit on Agricultural Productivity.

### Data and Methodology

In this study, secondary data compiled from various published sources is used. The data on gross state domestic product (GSDP), gross cropped area (GCA) and agricultural gross state value added (AgGSVA) were compiled from the Handbook of Statistics on Indian States (2023) by the Reserve Bank of India. Data on the flow of credit in the agriculture sector in Himachal Pradesh obtained from different reports of the State Level Bankers Committee H.P., the Indiastat website, and various Economic Survey issues published by the GoHP. For analysis of the data, we used simple tables, calculated the Compound Annual Growth Rate (CAGR), and analyzed the data's variability using the Coefficient of Variance (CV).

## Results and Discussion

**Table 1.1 Ground Level Credit (GLC) Flow of agriculture credit in by Various Institutions in HP under Priority Sector Scheme**

Particular	PSBs		RRBs		Coop. Banks		PVTs		TOTAL (All agencies Agri. Credit)
2016-17	3353	59%	523	9.17%	1416	25%	411	7%	5703
2017-18	3221	54%	730	12.18%	1479	25%	562	9%	5992
2018-19	3312	48%	992	14.35%	1921	28%	689	10%	6914
2019-20	4194	53%	1211	15.24%	1831	23%	712	9%	7947
2020-21	4580	54%	1337	15.63%	1896	22%	739	9%	8552
2021-22	4078	46%	1609	18.17%	2193	25%	974	11%	8856
2022-23	4789	46%	1670	16.20%	2580	25%	1267	12%	10307
CAGR	6.889		21.113		9.628		17.620		10.395

Source: SLBC HP

This analysis provides insights into the changing dynamics of agricultural credit distribution among different types of institutions over the specified years. The Compound Annual Growth Rate (CAGR) represents the average annual growth rate of a value over a specified time. In recent years, there have been notable changes in the distribution of agricultural loans among different types of banks. The percentage share of Public Sector Commercial Banks in total agricultural credit started at 59% in 2016-17 and decreased to 46% in 2022-23. The CAGR for PSBs is 6.889%, indicating an average annual growth rate in agricultural credit disbursement by Public Sector Banks which Experienced steady growth with a moderate CAGR. Still PSBs are the chief source of credit for agriculture accounting 46 percent share in total disbursement.

RRBs had a percentage share of 9.17 percent in 2016-17, increased to 16.20 percent in 2022-23, which exhibit the highest CAGR at 21.113%, suggesting substantial annual growth in agricultural credit disbursed by these banks. It stood out with the highest CAGR, indicating substantial growth. The percentage share of Cooperative Banks started at 25% in 2016-17, it remained at 25% in 2022-23. It has a CAGR of 9.628%, representing their moderate growth with a single-digit CAGR in agricultural credit disbursement. Private Sector Banks started with a 7% share in 2016-17, increased to 10% in 2018-19, and remained constant at 9% from 2019-20 to 12 percent in 2022-23. Private Sector Banks show a robust CAGR of 17.620%, indicating a significant average annual growth rate in providing agricultural credit, which demonstrated strong and consistent growth. The total agricultural credit disbursed by all agencies increased over the years, starting at 5703 crores in 2016-17 and reaching 10307 crores in 2022-23. The overall CAGR for it is 10.395%. This represents the average annual growth rate of agricultural credit across all types of banks collectively. RRBs have the highest CAGR, suggesting a more substantial annual growth in agricultural credit compared to other types of banks. Government Sector Commercial Banks hold a significant majority with a 46 percent share in total credit. Private sector banks also show a relatively high CAGR, while public sector banks and cooperative banks exhibit comparatively lower average annual growth rates in agricultural credit disbursement over the specified period.

**Table 1.2 Banking Infrastructure Facilities in Himachal Pradesh**

### Banking Outreach in Himachal Pradesh

	Total number of Rural branches		Number of Semi Urban branches		Number of Urban branches		Number of Branches in HP
2013	1367	80.13%	253	14.83%	86	5.04%	1706
2014	1450	80.15%	272	15.04%	87	4.81%	1809
2015	1539	79.95%	300	15.58%	86	4.47%	1925
2016	1638	80.41%	307	15.07%	92	4.52%	2037
2017	1717	81.37%	298	14.12%	95	4.50%	2110
2018	1724	80.90%	316	14.83%	91	4.27%	2131
2019	1724	79.26%	346	15.91%	105	4.83%	2175
2020	1694	77.21%	397	18.09%	103	4.69%	2194

2021	1695	77.22%	396	18.04%	104	4.74%	2195
2022	1736	77.33%	411	18.31%	98	4.37%	2245
CAGR	2.15		5.49		2.26		2.88

Source: State Level Bankers' Committee (SLBC) of HP

This table provides information on the banking outreach in Himachal Pradesh, including the total number of branches in different regions (rural, semi-urban, and urban) over the years, along with the corresponding percentages and Compound Annual Growth Rates (CAGR). Bank branches have a direct association with the overall disbursement of the agriculture credit. Total number of rural branches started at 80.13% in 2013 and decreased to 77.33% in 2022, The CAGR for it is 2.15%, Experienced a modest increase in CAGR, indicating a gradual growth in the total number of rural branches. Semi-Urban branches Increased from 14.83% in 2013 to 18.31% in 2022. The CAGR for semi-urban branches is 5.49%, showed the highest CAGR, suggesting significant growth in the total number of semi-urban branches over the years. Urban branches Started at 5.04% in 2013 and decreased to 4.37% in 2022. The CAGR for urban branches is 2.26%, displayed a moderate increase in CAGR, indicating a relatively steady growth in the total number of urban branches. Study showed shift in the distribution of branches towards semi-urban areas, as indicated by the increasing percentage share and high CAGR for semi-urban branches. Rural branches, while still maintaining a significant percentage share, have shown a relatively lower CAGR compared to semi-urban branches. Urban branches have seen a decrease in both percentage share and CAGR, suggesting a slower growth rate in urban banking outreach.

### Relationship between the number of bank branches and agricultural credit disbursement

The statistical packages SPSS is used to calculate the correlation coefficient (typically Pearson correlation coefficient).

$$\text{Correlation Coefficient } (r) = \frac{(X-\bar{X})(Y-\bar{Y})}{\sqrt{(X-\bar{X})^2 (Y-\bar{Y})^2}}$$

Conduct a hypothesis test to determine whether the correlation coefficient is statistically significant. The most common test is the t-test for correlation.

**Table 1.4 Correlations Between Total Agriculture credit and Bank Branches in H.P.**

		Total Agriculture credit	Bank Branches
TOTAL (All agencies Agri. Credit)	Pearson Correlation	1	.956**
	Sig. (2-tailed)		.001
	N	7	7
Bank Branches	Pearson Correlation	.956**	1
	Sig. (2-tailed)	.001	
	N	7	7

\*\* . Correlation is significant at the 0.01 level (2-tailed).

A correlation matrix that shows the Pearson correlation coefficients between two variables, "Total Agriculture credit " and "Bank Branches" Showed in above table. The Pearson correlation coefficient is a measure of the strength and direction of a linear relationship between two variables. In both cases, the correlation coefficient is 0.956, indicating a very strong positive linear relationship between these two variables. The significance level (p-value) is 0.001 in both cases. This value is less than the conventional threshold of 0.05, suggesting that the observed correlation is statistically significant. In other words, there is strong evidence to reject the null hypothesis that the correlation is zero.

The positive sign of the correlation coefficient (0.956) indicates a positive linear relationship. As one variable increases, the other variable tends to increase as well. The total agricultural credit provided by various agencies, and number of bank branches, the high positive correlation suggests that as the total agricultural credit increases, there is a corresponding increase in the number of bank branches. The correlation matrix indicates a robust and statistically significant positive linear relationship between "Total Agriculture credit " and "Bank Branches."

**Table 1.5 Agency-wise and Broad Sector-wise Ground Level Credit Flow in HP under priority sector**

Particular	Total Credit to Agriculture Sector	Non Farm Sector (MSME)	Other Priority Sector	Total Non Agri. Sector	Total Priority Sector
2016-17	5703	5307	1916	7223	12926
2017-18	5992	5420	1866	7286	13278
2018-19	6914	7479	2125	9604	16518
2019-20	7947	9866	1376	11243	19190
2020-21	8552	12206	1359	13565	22117
2021-22	8856	10074	1331	11405	20260
2022-23	10307	13803	2282	16085	26392
CAGR	10.39589	17.84346	2.11453	13.89687	12.42152

Source: State Level Bankers' Committee (SLBC) of HP

The total agricultural credit disbursed has shown consistent growth over the years, reaching 10,307 in 2022-23 with CAGR of 10.395%. The total credit disbursed to the non-agricultural priority sector has shown significant growth, with a CAGR of 13.90%. The total credit disbursed to priority sectors, which includes both agricultural and non-agricultural segments, has consistently increased, with a CAGR of 12.42%. The data suggests a positive trend in credit disbursement across different sectors, indicating a holistic approach to financial support. The significant increase in the CAGR or non-farm sectors, especially for MSMEs, indicates a deliberate effort to boost economic activities beyond the usual emphasis on traditional agriculture. While there is a clear focus on supporting and promoting non-farm sectors, it is crucial to acknowledge that agricultural credit continues to play a vital role in the broader economic landscape.

**Table 1.6 Trends in Agricultural Credit Performance Indicators in Himachal Pradesh**

Year	Agricultural Credit/GSDP (%)	Agricultural Credit/AgGSVA (%)	Agricultural Credit/ GCA (Rs/ha.)
2016-17	5.53	73.54	61240.26
2017-18	5.48	83.92	65370.26
2018-19	5.94	98.04	75644.29
2019-20	6.56	90.54	89098.87
2020-21	7.27	109.39	95172.07
2021-22	7.00	103.80	99293.64
2022-23	7.66	119.88	114702.8

Source: State Level Bankers' Committee (SLBC) of HP

This table presents key indicators related to agricultural credit in comparison to different economic parameters over the years. The percentage of Agricultural Credit to Gross State Domestic Product (GSDP) has experienced a gradual increase over the years. Notable growth from 5.53% in 2016-17 to 7.66% in 2022-23, indicating an expanding reliance on agricultural credit in relation to the overall economic output. The percentage of Agricultural Credit to Agricultural Gross State Value Added (AgGSVA) has shown consistent growth, Steady rise from 73.54% in 2016-17 to 119.88% in 2022-23, signifying an increasing focus on allocating credit to the agricultural sector relative to its value-added contribution. The amount of Agricultural Credit per hectare of Gross Cropped Area (GCA) has demonstrated an upward trend, Substantial increase from Rs. 61,240.26 in 2016-17 to Rs. 114,702.80 in 2022-23, indicating a consistent effort to provide higher financial support per unit of cropped area. The data reflects a strategic effort to elevate the role of agricultural credit in the state's economic landscape, both in terms of the overall economic output and the specific contribution of agriculture to the state's value-added. The increases in percentages and values suggest a commitment to strengthening the agricultural sector through enhanced financial support, displaying a proactive approach over the years.

These trends of **Agricultural Credit Performance Indicators** collectively suggest a proactive approach to supporting agriculture through increased credit allocation, both in relation to the overall state economy and the specific agricultural sector metrics. The rising values across these indicators reflect a growing commitment to bolstering agricultural activities through financial means.

**Table 1.7 Bank Branches, KCC and Agriculture Credit in H.P**

Particular	Total Credit to Agriculture Sector	Total Number of Branches in HP	No of KCC
2016-17	5703	2110	351000
2017-18	5992	2131	417671
2018-19	6914	2175	430174
2019-20	7947	2194	426003
2020-21	8552	2195	469765
2021-22	8856	2245	436231
2022-23	10307	2266	471017

Source: State Level Bankers' Committee (SLBC) of HP

**Table 1.8 Relationships between Bank Branches, KCC with Agriculture Credit in Himachal Pradesh**

	Bank Branches	KCC
R 2	.939	.668
t-test	8.738	3.169
P-value (Sig.)	.000	.025
F- Value	76.34	10.041

For Bank Branches and KCC, the correlation coefficient (R) is provided for Bank Branches is 0.939 and KCC: 0.668. A correlation coefficient close to 1 indicates a strong positive correlation, while a coefficient close to -1 indicates a strong negative correlation. In this case, both variables show a positive correlation, with Bank Branches having a higher correlation with the other variable. The Anova result showed that the P-value is 0.000 in Bank Branches cases and .025 in Case of KCC, which is, less than 0.5 hence we say that there is a significant relationship between Bank Branches and KCC with Agriculture credit. Therefore, it can be concluded that the increase in Bank branches and KCC has a significant positive impact on flow of agriculture credit.

**Table 1.9 KCC and Agriculture Credit in HP**

Particular	Total Credit to Agriculture Sector	No of KCC	Amount Disbursed Through KCC	Percentage of loan Distributed by KCC
2016-17	5703	351000	5165.97	90.58%
2017-18	5992	417671	5625.7	93.89%
2018-19	6914	430174	6891.69	99.68%
2019-20	7947	426003	7425.09	93.43%
2020-21	8552	469765	7425.9	86.83%
2021-22	8856	436231	7779.2	87.84%
2022-23	10307	471017	8401	81.51%

Source: State Level Bankers' Committee (SLBC) of HP

The Amount Disbursed through KCC has generally increased over the years, reaching its peak in 2022-23 at 8,401. This indicates a positive trend for credit disbursed through Kisan Credit Cards. The Percentage of Loan Distributed by KCC shows some variation. While it reached a peak of 99.68% in 2018-19, it declined in the subsequent years, reaching 81.51% in 2022-23. The decrease could be attributed to changes in the distribution strategy or other factors affecting the distribution channels. Despite variations in specific indicators, the overall trend suggests a positive scenario in agricultural credit, emphasizing the importance of Kisan Credit Cards in facilitating credit access for farmers.

## Conclusion

Agriculture serves as the backbone of many economies, playing a pivotal role in ensuring food security and sustainable development. In the context of India, Himachal Pradesh stands as a testament to the rich agricultural landscape, characterized by diverse crops and a vibrant farming community. The success and resilience of the agricultural sector depend significantly on the accessibility and flow of credit to the farmers, ensuring the necessary financial support for agricultural activities. RRBs, Cooperatives, government and private Commercial banks are the sources for the disbursement of credit for agriculture in the state. This research embarks upon a critical exploration of the intricate dynamics that govern the agricultural credit flow in State. This research provides a comprehensive examination of the evolving

landscape of agricultural credit distribution among various banking institutions, shedding light on key trends and dynamics over the specified years.

The analysis reveals significant shifts in the allocation of agricultural loans, with Public Sector Commercial Banks experiencing steady growth but a decrease in their percentage share, Regional Rural Banks emerging as leaders with the highest Compound Annual Growth Rate (CAGR) of 21.113%, Cooperative Banks maintaining a consistent share, and Private Sector Banks demonstrating robust and sustained growth. Despite the fluctuations, Public Sector Commercial Banks persist as the primary source of credit, contributing to 46 percent of the total agricultural credit disbursed in 2022-23. The correlation matrix underscores a strong positive linear relationship with, the correlation coefficient of 0.956 between the total agricultural credit and the number of bank branches, emphasizing the pivotal role of banking outreach in facilitating credit disbursement. The study of banking outreach in Himachal Pradesh reveals a noteworthy shift in branch distribution, with semi-urban areas experiencing significant growth, signaling a strategic move towards decentralization. Furthermore, the research sheds light on the overall positive trajectory of agricultural credit, with a consistent annual growth rate of 10.395%, and an intentional effort to support non-farm sectors, particularly MSMEs. The indicators related to economic parameters showcase a deliberate push to enhance the role of agricultural credit in the state's economic landscape. The positive correlation between Bank Branches, Kisan Credit Cards (KCC), and Agriculture credit, supported by a significant p-value of 0.001, confirms the profound impact of increased bank branches and KCC adoption on the flow of agricultural credit. The KCC analysis reveals a positive trend in credit disbursed through Kisan Credit Cards, reaching its peak in 2022-23. Despite variations in the percentage of loans distributed by KCC, the overall scenario remains optimistic, underscoring the vital role of Kisan Credit Cards in facilitating credit access for farmers.

Trends in Agricultural Credit Performance Indicators showed a Notable growth from 5.53% in 2016-17 to 7.66% in 2022-23, indicating an expanding reliance on agricultural credit in relation to the overall economic output. The percentage of Agricultural Credit to Agricultural Gross State Value Added (AgGSVA) has shown consistent growth, Steady rise from 73.54% in 2016-17 to 119.88% in 2022-23, signifying an increasing focus on allocating credit to the agricultural sector relative to its value-added contribution. The amount of Agricultural Credit per hectare of Gross Cropped Area (GCA) has demonstrated an upward trend, Substantial increase from Rs. 61,240.26 in 2016-17 to Rs. 114,702.80 in 2022-23, indicating a consistent effort to provide higher financial support per unit of cropped area. In essence, this research signifies a proactive and strategic approach to bolstering agricultural activities through increased credit allocation, acknowledging the evolving needs of the agricultural sector within the broader economic context.

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