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**Impact Evaluation of Agricultural Welfare Schemes on Smallholder  
Farm Income in India**

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<b>Peer Review Information</b>	<b><u>Abstract</u></b>
<p><i>Submission: 13 March 2026</i> <i>Revision: 0.2 April 2026</i> <i>Acceptance: 16 April 2026</i></p> <p><b>Keywords</b></p> <p><i>Agricultural Schemes; Farmers' Income; Awareness; Scheme Utilization; Rural Development; Agricultural Policy</i></p>	<p>Agriculture remains a cornerstone of the Indian economy, sustaining a substantial proportion of the rural population while contributing significantly to national income and food security. Recognizing the persistent challenges of low farm income, production risks, and structural inefficiencies, the Government of India has implemented a spectrum of agricultural schemes aimed at income enhancement, risk mitigation, and productivity improvement. Notwithstanding these policy efforts, the realization of intended outcomes is critically contingent upon farmers' awareness, accessibility, and effective utilization of such schemes.</p> <p>The present study critically examines the level of awareness among farmers regarding major government agricultural schemes and evaluates their empirical impact on farmers' income. The research is grounded in a descriptive and analytical framework, employing both primary and secondary data sources. Primary data were collected through a structured survey administered to a representative sample of farmers, while secondary data were derived from official reports, academic literature, and policy documents. The study encompasses key interventions including direct income support schemes, crop insurance programs, institutional credit facilities, and soil health management initiatives.</p> <p>The analysis reveals that although awareness of certain flagship schemes is relatively high, a pronounced disparity exists between awareness and actual adoption. Empirical findings indicate that farmers who effectively access and utilize these schemes experience measurable improvements in income levels, income stability, and risk resilience. However, factors such as inadequate dissemination of information, administrative complexities, institutional bottlenecks, and limited digital literacy continue to impede optimal participation. The study underscores the necessity for strengthening extension mechanisms, enhancing last-mile delivery systems, and simplifying procedural frameworks to bridge the gap between policy formulation and field-level implementation. It further highlights the importance of targeted awareness campaigns and capacity-building initiatives to ensure inclusive access.</p> <p>The findings offer significant policy implications for improving the efficiency and impact of agricultural schemes, thereby contributing to sustainable agricultural development and long-term income enhancement for farmers.</p>

## Introduction

Agriculture continues to be a cornerstone of the Indian economy, playing a crucial role in ensuring food security, generating employment, and sustaining rural livelihoods. Despite its significance, the sector faces persistent challenges such as low and unstable farm incomes, fragmented landholdings, price fluctuations, inadequate access to institutional credit, and increasing vulnerability to climatic risks. These structural constraints have necessitated continuous policy interventions to improve the economic conditions of farmers. In response, the Government of India has introduced a range of agricultural schemes aimed at income enhancement, risk mitigation, and productivity improvement. These include direct income support programs, crop insurance schemes, credit facilities, and soil health management initiatives. While these schemes are well-designed to address key issues in the agricultural sector, their success largely depends on the level of awareness among farmers and the extent to which they are able to access and effectively utilize the benefits. However, in many rural areas, a significant gap exists between awareness and actual utilization. Factors such as inadequate information dissemination, procedural complexities, institutional inefficiencies, and limited digital literacy often restrict farmers from fully benefiting from these initiatives. Consequently, the potential impact of government schemes on farmers' income is not fully realized.

In this context, the present study seeks to assess the level of awareness among farmers regarding major government agricultural schemes and to evaluate their impact on farmers' income. The study also aims to identify key constraints in implementation and suggest measures to enhance the effectiveness of these schemes, thereby contributing to sustainable agricultural development and improved farmer welfare.

## Statement of the Problem

Despite the implementation of various government agricultural schemes aimed at enhancing farmers' income and ensuring agricultural sustainability, a substantial gap persists between policy intent and actual outcomes at the field level. The effectiveness of these schemes is often constrained by limited awareness among farmers, inadequate access, and challenges in utilization.

Moreover, procedural complexities, weak extension support, and low digital literacy further restrict the optimal adoption of these initiatives. Consequently, the potential benefits of such schemes are not fully realized, leading to

continued income instability among farmers.

In this context, there is a need to critically examine the level of farmers' awareness and assess the actual impact of government agricultural schemes on their income, while identifying the key barriers that hinder their effective implementation.

## Objectives of the Study

1. To critically assess the level of awareness among farmers regarding major government agricultural schemes.
2. To examine the extent of adoption and utilization of these schemes by farmers.
3. To evaluate the impact of government agricultural schemes on farmers' income and economic stability.
4. To identify and analyze the key constraints and challenges affecting the effective implementation and adoption of these schemes.

## Research Methodology

The present study employs a descriptive-cum-analytical research design to systematically examine the level of awareness and the impact of government agricultural schemes on farmers' income. The methodology is structured to ensure reliability, validity, and analytical rigor in the findings.

## Study Area

The study is confined to selected rural regions of Kanpur district, Uttar Pradesh, which represent typical agrarian conditions and diverse categories of farmers.

## Data Sources

The research is based on both primary and secondary data:

- **Primary Data:** Collected through a structured and pre-tested questionnaire administered to farmers.
- **Secondary Data:** Sourced from government publications (Ministry of Agriculture & Farmers Welfare), NABARD reports, research journals, and official databases.

## Sampling Design and Technique

A multi-stage sampling technique was adopted. Initially, villages were selected purposively based on agricultural activity, followed by random sampling of farmers within the selected villages to ensure representativeness and minimize selection bias.

## Sample Size

A total of 120 farmers were selected for the

study, covering small, marginal, and medium farmers to ensure diversity in responses.

**Data Collection Method**

Primary data were collected through personal interviews and field surveys, ensuring better accuracy and clarity of responses. The questionnaire included sections on demographic profile, awareness level, scheme utilization, and changes in income.

**Analytical Tools and Techniques**

The collected data were coded, tabulated, and analyzed using appropriate statistical tools, including:

- Descriptive statistics (percentage, mean, and frequency distribution)
- Comparative analysis (income before and after availing schemes)
- Correlation analysis (to assess the relationship between awareness and income)
- Data visualization through tables, charts, and graphs for better interpretation

**Scope of the Study**

The study examines the level of awareness and the impact of selected government agricultural schemes on farmers’ income in the rural areas of Kanpur district, Uttar Pradesh. It focuses on key schemes related to income support, crop insurance, and credit facilities, and analyzes their utilization and effectiveness among farmers. The findings are based on primary data collected from a defined sample and are limited to the selected study area.

**Limitations of the Study**

The study is confined to a specific geographical area and a limited sample size, which may restrict the generalizability of the findings. The analysis is based primarily on self-reported data collected from respondents, which may be subject to response bias and recall errors. Additionally, time and resource constraints limited the scope of data collection and in-depth analysis. Variations in farmers’ understanding of government schemes may also influence the accuracy of responses.

**Percentage Analysis**

**Table 1:** Awareness of Government Agricultural Schemes among Respondents

S. No.	Government Scheme	Number of Respondents	Percentage (%)
1	PM-KISAN	43	43.0
2	Kisan Credit Card (KCC)	18	18.0

**Review of Literature**

A number of studies have examined the role of government agricultural schemes in improving farmers’ income and overall agricultural development. These studies provide valuable insights into awareness levels, utilization patterns, and the effectiveness of policy interventions.

**Sharma (2020)** analyzed the awareness of crop insurance schemes among farmers and found that although a majority had heard about such schemes, detailed knowledge regarding benefits and procedures was limited, resulting in low participation rates.

**Singh and Kumar (2021)** studied the impact of income support schemes such as PM-KISAN and reported a positive effect on farmers’ income stability, particularly among small and marginal farmers.

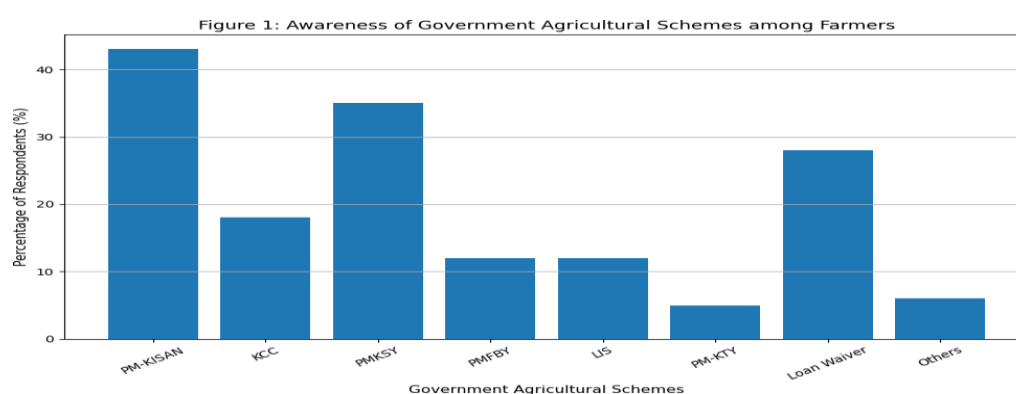
**NABARD (2022)** highlighted the importance of institutional credit and financial inclusion through schemes like the Kisan Credit Card (KCC), emphasizing their role in reducing dependence on informal credit sources.

**Patel et al. (2019)** examined the Soil Health Card Scheme and observed that while awareness levels were moderate, actual adoption was constrained due to lack of technical guidance and follow-up support.

**Kumar and Singh (2020)** identified that procedural complexities, lack of awareness, and inadequate extension services were major barriers affecting the effective implementation of agricultural schemes.

**Government of India Reports (Ministry of Agriculture & Farmers Welfare, 2021-2023)** indicate that although significant financial resources have been allocated to agricultural schemes, gaps in last-mile delivery and awareness continue to limit their overall impact. Overall, the literature suggests that while government agricultural schemes have the potential to enhance farmers’ income and reduce risk, their effectiveness is significantly influenced by farmers’ awareness, accessibility, and institutional support. A consistent gap between awareness and actual utilization has been identified across multiple studies, highlighting the need for improved implementation strategies.

3	Pradhan Mantri Krishi Sinchai Yojana (PMKSY)	35	35.0
4	Pradhan Mantri Fasal Bima Yojana (PMFBY)	12	12.0
5	Livestock Insurance Scheme (LIS)	12	12.0
6	Pradhan Mantri Kisan Tractor Yojana (PM-KTY)	5	5.0
7	Crop Loan Waiver Scheme	28	28.0
8	Other Schemes	6	6.0
	<b>Total</b>	<b>100</b>	<b>100.0*</b>



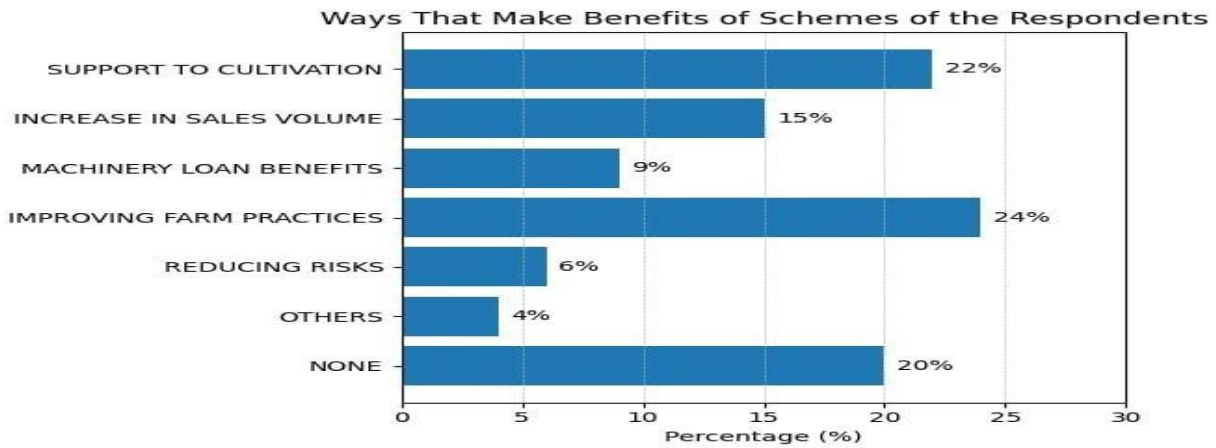
### Interpretation

The analysis reveals that awareness is highest for PM-KISAN (43.0%), followed by PMKSY (35.0%) and the Crop Loan Waiver Scheme (28.0%), indicating relatively stronger outreach and visibility of these programs. Moderate awareness is observed for Kisan Credit Card (18.0%), PMFBY (12.0%), and the Livestock Insurance Scheme (12.0%). In contrast, awareness of PM-KTY (5.0%) and other schemes (6.0%) remains considerably low. Overall, the findings highlight a

skewed distribution of awareness, where a few prominent schemes dominate farmers' knowledge, while several other important initiatives suffer from limited recognition. This underscores the need for strengthened extension services, targeted awareness campaigns, and improved information dissemination mechanisms to ensure broader outreach and effective utilization of government agricultural schemes.

**Table 2: Benefits Derived from Government Agricultural Schemes by Respondents**

S. No.	Benefits of Schemes	Number of Respondents	Percentage (%)
1	Support to Cultivation	22	22.0
2	Increase in Sales Volume	15	15.0
3	Machinery Loan Benefits	9	9.0
4	Improving Farm Practices	24	24.0
5	Reducing Risks	6	6.0
6	Others	4	4.0
7	None	20	20.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>



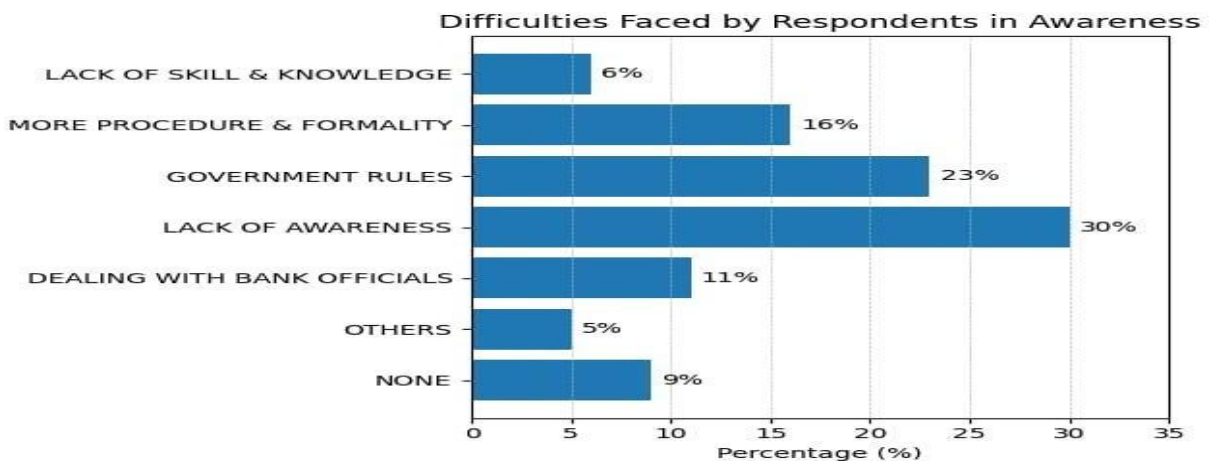
**Interpretation**

The above table shows that the most significant benefit derived from government agricultural schemes is improvement in farm practices (24.0%), followed by support to cultivation (22.0%). A notable proportion of respondents (20.0%) reported no benefits, indicating gaps in effective implementation or accessibility. Other benefits include increase in sales volume

(15.0%), machinery loan support (9.0%), and risk reduction (6.0%), while a small percentage (4.0%) falls under other benefits. Overall, the findings suggest that although government schemes positively influence agricultural practices and productivity, a considerable section of farmers is yet to fully benefit from these initiatives.

**Table 3: Difficulties Faced by Respondents in Availing Government Agricultural Schemes**

S. No.	Types of Difficulties	Number of Respondents	Percentage (%)
1	Lack of Skill and Knowledge	6	6.0
2	Lengthy Procedures and Formalities	16	16.0
3	Government Rules and Regulations	23	23.0
4	Lack of Awareness	30	30.0
5	Difficulty in Dealing with Bank Officials	11	11.0
6	Others	5	5.0
7	None	5	5.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>



**Interpretation**

The table reveals that the most significant difficulty faced by respondents is lack of awareness (30.0%), followed by government rules and regulations (23.0%) and lengthy procedures and formalities (16.0%). Additionally, 11.0% of respondents reported challenges in dealing with bank officials, while

6.0% indicated lack of skill and knowledge as a barrier. A small proportion of respondents reported other difficulties (5.0%) or no difficulties (5.0%). Overall, the findings highlight that informational gaps, procedural complexities, and institutional challenges are the major constraints limiting effective access to government agricultural schemes.

**Table 4:** Analysis of Relationship between Types of Crops Grown and Time Taken by Government to Fulfill Schemes

S. No.	X (Types of Crops)	Y (Time Taken)	XY	X <sup>2</sup>	Y <sup>2</sup>
1	42	14	588	1764	196
2	15	28	420	225	784
3	32	25	800	1024	625
4	11	31	341	121	961
	<b>Total</b>	<b>100</b>	<b>98</b>	<b>2149</b>	<b>3134</b>

**Correlation Analysis (Karl Pearson's Coefficient)**

To measure the relationship between the variables, Karl Pearson's coefficient of correlation is used:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

**Interpretation**

The calculated correlation coefficient ( $r \approx -0.93$ ) indicates a **strong negative relationship** between the types of crops grown and the time taken by the government to fulfill schemes.

**Table 5:** Relationship between Farming Experience and Perception on the Impact of Government Schemes

S. No.	X (Farming Experience)	Y (Perception Level)	XY	X <sup>2</sup>	Y <sup>2</sup>
1	11	10	110	121	100
2	14	12	168	196	144
3	30	26	780	900	676
4	24	20	480	576	400
5	21	15	315	441	225
	<b>Total</b>	<b>100</b>	<b>83</b>	<b>1853</b>	<b>2234</b>

**Correlation Analysis (Karl Pearson's Coefficient)**

**Formula Used**

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

**Interpretation**

The calculated coefficient of correlation ( $r \approx +0.98$ ) indicates a **very strong positive**

**relationship**

between farming experience and farmers' perception of the impact of government schemes. This implies that farmers with greater farming experience tend to have a more favorable and informed perception regarding the effectiveness of government agricultural schemes.

**Findings**

- A majority of respondents (35%) belong

- to the age group of 51–60 years.
- About 30% of respondents have 11–20 years of farming experience.
- Nearly 42% of respondents primarily cultivate food crops.
- Around 33% of respondents have an annual income ranging between ₹76,001 and ₹1,00,000.
- A significant majority (72%) of respondents reported being aware of government agricultural schemes.
- Among specific schemes, 43% of respondents are aware of major agricultural initiatives.
- Approximately 27% of respondents obtain information from agricultural union offices.
- A majority (51%) of respondents have been utilizing government schemes for more than five years.
- About 24% of respondents reported benefits in terms of improved farm practices.
- Around 51% of respondents expressed satisfaction with government schemes.
- Approximately 26% of respondents perceive loan-related benefits as the primary advantage.
- A majority (75%) of respondents reported facing difficulties in becoming aware of schemes.
- About 44% of respondents find it difficult to access government schemes.
- Nearly 43% of respondents believe that schemes are announced at the appropriate time.
- A majority (63%) of respondents opined that the government does not take adequate steps to promote schemes.
- Around 54% of respondents face issues while claiming benefits under government schemes.

### Suggestions

- The government should strengthen awareness initiatives to ensure that farmers are adequately informed about available agricultural schemes and associated benefits, including subsidies and credit facilities.
- Effective and timely dissemination of information through accessible channels such as mobile messages, advertisements, newspapers, and voice-based communication should be enhanced to reach all categories of farmers, including the illiterate.

- Administrative procedures should be simplified, and unnecessary bureaucratic interference should be minimized to facilitate easier access to scheme benefits.
- The use of digital platforms and automated systems should be promoted to identify eligible beneficiaries and ensure transparent allocation of schemes.
- Government officials and extension personnel should be trained and instructed to provide accurate and timely information to farmers regarding scheme provisions and procedures.
- Regular awareness programs, such as monthly agricultural camps or outreach activities, should be conducted to improve farmers' knowledge and participation.
- The process of benefit disbursement should be streamlined, ensuring that financial assistance is directly transferred to farmers' bank accounts to enhance transparency and efficiency.
- Monitoring mechanisms should be strengthened to ensure that the benefits of schemes reach the intended beneficiaries and prevent misuse.

### Conclusion

This study critically evaluates the awareness and impact of government agricultural schemes on farmers' income and overall livelihood. The analysis indicates that, while a reasonable proportion of farmers possess general awareness of such schemes, significant gaps persist in terms of comprehensive understanding, accessibility, and effective utilization. The findings further reveal that structural and administrative challenges—including complex procedures, inadequate dissemination of information, and delays in benefit disbursement—continue to limit the effectiveness of these schemes. Consequently, a substantial number of farmers are unable to fully realize the intended advantages, thereby reducing the overall impact on income enhancement and agricultural development. The study underscores the need for a more integrated, transparent, and farmer-centric approach in policy implementation. Strengthening last-mile connectivity, simplifying administrative processes, and leveraging digital and extension mechanisms for awareness creation are essential to improve outreach and efficiency. Ensuring timely and equitable delivery of benefits will not only enhance farmer satisfaction but also contribute significantly to

sustainable agricultural growth and rural economic development.

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