

Evaluating Agricultural Policy Interventions and Their Impact on the Socio-Economic Empowerment of Small and Marginal Farmers: Evidence from Wardha District, Maharashtra

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ABSTRACT

Agriculture is still the mainstay of Indian economy and the livelihood support for predominantly the rural population. Small and marginal farmers form majority of the agricultural households, and are important for guaranteeing food security and rural development. Farmers, however, experience problems like weak irrigation facilities, institutional credit, fragmented land holdings, market uncertainties and climate-related risks. In response to these challenges, the Government of India and Government of Maharashtra have taken several policy measures to tackle agriculture-related issues between 2013 and 2023. Several major schemes are introduced for improving the farmers' income, productivity and socio-economic conditions like Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), Pradhan Mantri Fasal Bima Yojana (PMFBY), Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Kisan Credit Card (KCC), Soil Health Card Scheme and Farmer Producer Organizations (FPOs).

The present study focuses on the effect of these agricultural policy measures on socio-economic status of small and marginal farmers of the Wardha district of Maharashtra. Primary data is collected from 180 farmers using a structured questionnaire and secondary data is collected from government reports, research articles and institutional publications. Data interpretation was carried out by statistical techniques like percentage, chi-square test, correlation and regression analysis.

The results show that agricultural policy has led to very significant positive impacts on farmers' incomes, agricultural productivity, the position of farmers in the financial system, and the farmer's life. The study also highlights issues of awareness, accessibility and

implementation of Government schemes. The findings indicate that scaling up extension, streamlining administrative processes and increasing policy outreach can boost the impact of agricultural interventions further. Finally, the study suggests that agricultural policy interventions have significantly contributed to socio-economic empowerment of small and marginal farmers of Wardha district and their continued use in sustainable agricultural development is essential.

The keywords : Agricultural Policy, Farmer Welfare, Socio Economic empowerment, Small Farmers, Marginal Farmers, Wardha District, PM-KISAN, PMFBY, Rural development.

1.Introduction :

Background of the Study

Agriculture is the backbone of the Indian economy, and small and marginal farmers constitute more than 85% of operational landholdings in the country. Despite their significant contribution to agricultural production, these farmers face challenges such as limited landholdings, inadequate irrigation facilities, restricted access to institutional credit, rising input costs, climate uncertainties, and market risks.

To address these issues, the Government of India and the Government of Maharashtra have introduced various agricultural policy interventions, including PM-KISAN, PMFBY, PMKSY, Kisan Credit Card (KCC), Soil Health Card Scheme, and Farmer Producer Organizations (FPOs). These initiatives aim to improve farmers' income, productivity, financial inclusion, risk management, and market access.

Wardha district in Maharashtra's Vidarbha region is predominantly agrarian and has a large population of small and marginal farmers. Therefore, it provides an appropriate setting to evaluate the effectiveness of agricultural policy interventions and their contribution to farmers' socio-economic empowerment.

The present study examines the impact of these interventions on the income, productivity, financial inclusion, and overall socio-economic well-being of small and marginal farmers in Wardha district.

Meaning of Agricultural Policy Interventions

Agricultural policy interventions refer to government schemes, programs, and support measures designed to improve agricultural productivity, farmers' income, access to credit, irrigation facilities, risk management, and overall rural development.

Meaning of Socio-Economic Empowerment

Socio-economic empowerment refers to the improvement in individuals' economic status, social participation, decision-making ability, and quality of life. In the case of farmers, it includes higher income, better productivity, improved financial security, greater access to resources, reduced vulnerability, and enhanced living standards..

2.Need and Importance of the Study :

The study is important for the following reasons:

1. It evaluates the effectiveness of agricultural schemes implemented during 2013–2023.
2. It helps understand the socio-economic impact of policy interventions on small and marginal farmers.
3. It provides insights into the challenges faced by farmers in accessing government benefits.
4. It contributes to the existing literature on agricultural economics and rural development.
5. It offers policy recommendations for improving the implementation of agricultural schemes.
6. The study is confined to small and marginal farmers in Wardha district of Maharashtra. It focuses on major agricultural policy interventions implemented during the period 2013–2023 and examines their impact on income, productivity, financial inclusion, and socio-economic empowerment..

3.Statement of the Problem

Despite numerous government initiatives aimed at supporting agriculture and improving farmers' welfare, small and marginal farmers continue to face economic and social challenges. Issues such as low farm income, indebtedness, production risks, and inadequate access to institutional support remain prevalent. Therefore, there is a need to examine whether agricultural policy interventions have effectively contributed to the socio-economic empowerment of farmers in Wardha district.

2. Review of Literature

1. Lalitha, Viswanathan and Vinayan (2022) : Lalitha et al. The study examined the role of Farmer Producer Organizations (FPOs) in Maharashtra and found that FPOs improved market access, increased farmers' income, reduced transaction costs, and strengthened social capital. The authors concluded that FPOs play an important role in the socio-economic empowerment of small and marginal farmers.
2. Dastagir et al. (2022): The study reviewed major agricultural welfare schemes in India and found that initiatives such as PM-KISAN, PMFBY, PMKSY, Soil Health Card Scheme, e-NAM, and FPO promotion play an important role in improving farmers' income, productivity, irrigation access, and overall welfare. The study emphasized the need for continued policy support for small and marginal farmers.
3. Chavai et al. (2025): Chavai and colleagues investigated the implementation of PM-KISAN among farmers in Ahilyanagar district of Maharashtra. Based on a survey of 150 beneficiary farmers, the study found that PM-KISAN provided important financial support to small and marginal farmers. However, beneficiaries reported challenges such as procedural delays, documentation issues, and difficulties in accessing information regarding the scheme.
4. Chavai et al. (2025): In another study conducted in Ahilyanagar district, the researchers analyzed farmers' perceptions of PM-KISAN. The findings revealed that a majority of beneficiaries considered the scheme beneficial for purchasing agricultural inputs, improving crop health, increasing yields, and enhancing farm income. The study concluded that direct income support contributes positively to farmers' economic stability.
5. Government of India Agricultural Policy Reports: Government reports consistently emphasize that PM-KISAN, PMFBY, PMKSY, and Kisan Credit Card initiatives are intended to improve income stability, risk management, irrigation coverage, and financial inclusion among farmers. These policy interventions are considered important tools for promoting sustainable agricultural development and rural welfare.

4. Research Gap :

The review of literature reveals that most studies have focused on individual schemes such as PM-KISAN, PMFBY, irrigation programs, or FPOs. Limited research has examined the combined impact of multiple agricultural policy interventions on the socio-economic empowerment of small and marginal farmers at the district level. Furthermore, very few studies have specifically focused on Wardha district of Maharashtra. Therefore, the present

study attempts to evaluate the collective impact of major agricultural policy interventions implemented during 2013–2023 on the socio-economic empowerment of small and marginal farmers in Wardha district.

5.Objectives of the Study :

1. To examine the major agricultural policy interventions and government schemes implemented for small and marginal farmers in Wardha district during the period 2013–2023.
2. To assess the level of awareness and utilization of agricultural schemes among small and marginal farmers in Wardha district.
3. To evaluate the impact of agricultural policy interventions on the income and agricultural productivity of small and marginal farmers.
4. To examine the role of agricultural policy interventions in enhancing the socio-economic empowerment of small and marginal farmers.
5. To identify the challenges faced by farmers in accessing and utilizing government agricultural schemes.
6. To suggest suitable policy measures for improving the effectiveness of agricultural interventions and promoting sustainable farmer welfare.

6.Hypotheses of the Study :

H1: Agricultural policy interventions have a positive influence on the socio-economic empowerment of small and marginal farmers.

H2: Farmers with higher awareness of agricultural schemes are more likely to utilize government agricultural policy interventions.

H3: Agricultural policy interventions have a significant effect on the income levels of small and marginal farmers.

H4: Agricultural policy interventions have a positive impact on agricultural productivity among small and marginal farmers.

7.Research Design and Methodology:

7.1 Research Design The study adopts a descriptive and analytical research design. The descriptive approach is used to understand the socio-economic characteristics of farmers and their awareness and utilization of agricultural schemes. The analytical approach is used to evaluate the impact of policy interventions on farmers' income, productivity, financial inclusion, and overall socio-economic empowerment.

7.2 Sample Size and Area of the Study

A total of 180 small and marginal farmers were selected for the study.

The study is conducted in Wardha District, Maharashtra. Wardha is predominantly an agricultural district located in the Vidarbha region.

7.3 Sampling Technique : A Stratified Random Sampling Method was used to select respondents from different villages of Wardha district.

7.4 Data Collection : Primary data were collected directly from farmers through a structured questionnaire. Secondary data were collected from:

- Ministry of Agriculture and Farmers Welfare Reports
- Government of Maharashtra Agricultural Department Reports
- NABARD Reports
- RBI Reports
- Economic Survey of India
- Agricultural Census Reports
- Research journals, books, and conference papers
- Published reports related to agricultural schemes

7.5 Limitations of the Study

1. The study is limited to Wardha district only.
2. The sample size is restricted to 180 respondents.
3. The study focuses only on small and marginal farmers.
4. The accuracy of findings depends upon the responses provided by respondents.
5. Time and resource constraints limited the scope of data collection.

7.7 Statistic Tools in the Study. The collected data were analysed using the following statistical techniques:

1. Percentage Analysis: Used to analyze demographic characteristics, awareness levels, and utilization of schemes.
2. Mean Score Analysis: Used to evaluate the perception of farmers regarding socio-economic improvement.
3. Chi-Square Test: Used to determine the relationship between participation in government schemes and socio-economic empowerment.
4. Correlation Analysis: Used to measure the relationship between agricultural policy interventions and socio-economic outcomes.
5. Regression Analysis: Used to assess the impact of policy interventions on socio-economic empowerment.

8. Data Analysis and Interpretation :

Table 1 .Gender-wise Distribution of Respondents

Gender	Frequency	Percentage
Male	126	70 %
Female	54	30 %
Total	180	100 %

Source: the figures have been obtained through Primary Data.

The table reveals that 70% of respondents were male, while 30% were female. This indicates that farming activities in the study area are predominantly managed by male members of the household.

Table 2. Category-wise Distribution of Farmers

Category	Frequency	Percentage
Small Farmers	104	57.8
Marginal Farmers	76	42.2
Total	180	100

Source: the figures have been obtained through Primary Data.

Among the respondents, 57.8% were small farmers and 42.2% were marginal farmers. This indicates that the majority of respondents possessed operational landholdings between 1 and 2 hectares.

Table 3. Awareness Regarding Government Agricultural Schemes

Response	Frequency	Percentage
Aware	153	85
Not Aware	27	15
Total	180	100

Source: the figures have been obtained through Primary Data.

The majority of farmers (85%) were aware of government agricultural schemes. This suggests that awareness campaigns and extension services have played an important role in disseminating information about agricultural policies.

Table 4.Scheme-wise Awareness among Farmers

Scheme	Aware (%)
PM-KISAN	94
PMFBY	82
Kisan Credit Card	77
Soil Health Card	71
PMKSY	65
FPOs	48

Source: the figures have been obtained through Primary Data.

PM-KISAN recorded the highest awareness level among respondents (94%), followed by PMFBY (82%). Awareness regarding Farmer Producer Organizations (48%) was comparatively lower.

Table 5.Beneficiaries of Agricultural Schemes

Response	Frequency	Percentage
Beneficiary	135	75
Non-Beneficiary	45	25
Total	180	100

Source: the

figures have been obtained through Primary Data.

The findings indicate that 75% of respondents had availed benefits from at least one government agricultural scheme.

Table 6.Utilization of Major Agricultural Schemes

Scheme	Beneficiaries (%)
PM-KISAN	88
PMFBY	69
Kisan Credit Card	63
Soil Health Card	58
PMKSY	41

Source: the figures have been obtained through Primary Data.

PM-KISAN emerged as the most utilized scheme among respondents. Irrigation-related schemes recorded comparatively lower participation levels due to infrastructural and procedural constraints.

Impact on Farmers' Income

Table 7. Income Improvement after Availing Schemes

Response	Frequency	Percentage
Income Increased	126	70
No Significant Change	54	30
Total	180	100

Source: the figures have been obtained through Primary

Data

The majority of respondents (70%) reported an increase in farm income after receiving benefits from government agricultural schemes.

Table 8. Average Annual Income Before and After Participation

Particulars	Average Income (₹)
Before Participation	82,500
After Participation	1,16,700
Increase (%)	41.45

Source: the figures have been obtained through Primary Data.

The average annual income increased by approximately 41.45% after participation in agricultural schemes, indicating a positive impact on economic well-being.

Impact on Agricultural Productivity

Table 9. **Improvement Farmers** **Productivity among**

Category	Frequency	Percentage
Significantly Improved	54	30
Moderately Improved	63	35
Slightly Improved	45	25
No Change	18	10
Total	180	100

Source: the figures have been obtained through Primary Data.

About 90% of respondents reported improvements in agricultural productivity after availing policy support and adopting improved agricultural practices.

Financial Inclusion and Credit Access

Table 10. Access to Institutional Credit

Response	Frequency	Percentage
Yes	122	67.8
No	58	32.2
Total	180	100

Source: the figures have been obtained through Primary Data

Nearly 68% of farmers reported access to institutional credit through banks and cooperative societies, indicating improved financial inclusion.

Socio-Economic Empowerment

Table 11. Improvement in Standard of Living

Response	Frequency	Percentage
Strongly Agree	45	25
Agree	72	40
Neutral	36	20
Disagree	18	10
Strongly Disagree	9	5

Total	180	100
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Source: the figures have been obtained through Primary Data

A majority of respondents (65%) agreed that agricultural policy interventions improved their standard of living.

Table 12. Chi-Square Test Results

Particulars	Value
Chi-Square Calculated Value	14.28
Degrees of Freedom	1
p-value	0.000

Source: the figures have been obtained through Primary Data Analysis.

Since the p-value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, participation in agricultural schemes has a significant relationship with socio-economic empowerment.

Correlation Analysis

Table 13. Correlation between Variables

Variables	Correlation Coefficient (r)
Awareness and Income Improvement	0.58
Scheme Utilization and Productivity	0.64
Institutional Credit and Investment	0.69

Source: the figures have been obtained through Primary Data Analysis.

The correlation coefficients indicate a positive relationship among the variables. Increased awareness and utilization of agricultural schemes contribute positively to farmers' socio-economic conditions.

Regression Analysis

Table 14. Regression Results

Variable	Beta Coefficient	p-value
Awareness	0.31	0.002
Scheme Utilization	0.42	0.000
Institutional Credit	0.29	0.004

Irrigation Support	0.26	0.011
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$R^2 = 0.62$

Source: the figures have been obtained through Primary Data Analysis.

The regression model explains 62% of the variation in socio-economic empowerment. Scheme utilization is the strongest predictor, followed by awareness and access to institutional credit.

9.Findings :

Based on the analysis and interpretation of data, the following major findings were observed:

Major Findings of the Study

1. The majority of respondents (85%) were aware of government agricultural schemes, with PM-KISAN being the most recognized scheme.
2. About 75% of the farmers had availed benefits from at least one agricultural scheme, indicating substantial scheme outreach.
3. Agricultural policy interventions positively influenced farmers' income, with average annual income increasing from ₹82,500 to ₹1,16,700.
4. Nearly 70% of respondents reported an improvement in their agricultural income after participating in government schemes.
5. Access to institutional credit improved significantly through Kisan Credit Card and other banking initiatives, reducing dependence on informal moneylenders.
6. Approximately 90% of farmers experienced improvements in agricultural productivity due to irrigation support, modern farming practices, and scientific nutrient management.
7. Agricultural policy interventions contributed to improved living standards, financial security, and decision-making capacity among farmers.
8. Awareness and utilization of agricultural schemes were positively associated with better socio-economic outcomes.
9. Statistical analysis confirmed a significant relationship between participation in agricultural schemes and socio-economic empowerment.
10. Scheme utilization emerged as the most influential factor affecting the socio-economic empowerment of small and marginal farmers in Wardha district.

11. Despite positive outcomes, challenges such as limited awareness of certain schemes, procedural complexities, and implementation barriers continue to affect scheme effectiveness.

10. Suggestions:

Based on the findings of the study, the following suggestions are offered:

1. **Strengthening Awareness Programs:** Government agencies should conduct regular awareness campaigns through Gram Panchayats, Krishi Vigyan Kendras, agricultural universities, and local media to ensure that farmers are fully informed about available schemes.
2. **Simplification of Procedures:** The application and documentation process should be simplified to encourage greater participation among small and marginal farmers.
3. **Strengthening Agricultural Extension Services:** Agricultural extension officers should provide continuous guidance regarding scheme eligibility, application procedures, and utilization of benefits.
4. **Promotion of Farmer Producer Organizations (FPOs):** Greater emphasis should be placed on promoting FPOs to improve market access, collective bargaining power, and income generation.
5. **Regular Monitoring and Evaluation:** A comprehensive monitoring and evaluation mechanism should be established to assess scheme performance and address implementation challenges.

11. Conclusion

The study concludes that agricultural policy interventions have significantly contributed to the socio-economic empowerment of small and marginal farmers in Wardha district. Government schemes such as PM-KISAN, PMFBY, PMKSY, Kisan Credit Card, and Soil Health Card Scheme have positively influenced farmers' income, productivity, financial inclusion, and living standards. Statistical analysis confirmed a significant relationship between scheme participation and socio-economic empowerment. However, challenges related to awareness, accessibility, and implementation still persist. Therefore, strengthening policy implementation, farmer awareness, and institutional support can further enhance the effectiveness of agricultural interventions and promote sustainable rural development.

12. Scope for Future Research

Future researchers may consider the following areas:

1. Comparative studies between different districts of Maharashtra.
2. Assessment of individual agricultural schemes in greater detail.
3. Studies involving medium and large farmers.
4. Evaluation of digital agriculture initiatives and smart farming technologies.
5. Longitudinal studies examining the long-term impact of agricultural policies.

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