



MODERN AGRICULTURE AND SOCIO-ECONOMIC DEVELOPMENT OF FARMERS IN CHHATTISGARH

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ABSTRACT

The present study examines the role of modern agricultural practices in promoting the socio-economic development of farmers in Chhattisgarh. Modern agriculture has emerged as an important instrument for increasing agricultural productivity, improving farm income, generating employment opportunities, enhancing savings and investment behaviour, and improving the overall quality of life of rural households. The study was conducted in Durg District of Chhattisgarh and focused on three development blocks namely Durg, Dhamdha and Patan. A total sample of 1,000 farmers was selected for the investigation. The study considered modern agricultural practices such as improved seeds, mechanization, irrigation facilities, fertilizers and pesticides, organic farming and sustainable agricultural practices. Statistical tools such as percentage, mean, standard deviation, correlation, regression and ANOVA were used for data analysis. The findings reveal that farmers adopting modern agricultural practices experience higher socio-economic development compared to those with lower levels of adoption. The study concludes that modernization of agriculture significantly contributes to improving income, employment generation, savings and investment, education, health and safety, and overall socio-economic development of farmers.

Keywords: Modern Agriculture, Socio-Economic Development, Farmers, Rural Development, Chhattisgarh.

INTRODUCTION

Agriculture continues to occupy a central position in the economy of Chhattisgarh and remains the primary source of livelihood for a substantial proportion of the rural population. The development of agriculture is closely linked with the socio-economic progress of farming households. Traditionally, agriculture was characterized by dependence on monsoon rainfall, indigenous seed varieties, traditional implements, and limited use of scientific techniques. Such conditions often resulted in low productivity, unstable income and restricted opportunities for socio-economic advancement.

The emergence of modern agriculture has transformed farming practices through the application of scientific knowledge, technological innovation and improved management techniques. Modern agriculture includes the use of improved seeds, mechanization, irrigation systems, fertilizers, pesticides, information technology and sustainable farming practices. These innovations have significantly enhanced agricultural productivity and profitability.

The Government of India and the Government of Chhattisgarh have introduced several schemes to promote agricultural modernization. These initiatives have encouraged farmers to adopt scientific farming methods and improve production efficiency. As a result, many farmers in Durg District have gradually shifted from traditional farming systems to modern agricultural practices.

Socio-economic development is a multidimensional concept that includes income growth, employment generation, savings and investment, educational improvement, health and safety, and overall enhancement of living standards. Modern agricultural practices are expected to contribute positively to each of these dimensions. Therefore, it becomes important to assess the extent to which agricultural modernization contributes to the socio-economic development of farmers.

The present study seeks to examine the relationship between modern agricultural practices and socio-economic development among farmers of Durg District, Chhattisgarh. The findings are expected to provide valuable insights for policymakers, agricultural planners and rural development agencies.



REVIEW OF LITERATURE

1. Swaminathan (2006) emphasized that scientific agriculture contributes significantly to rural prosperity by increasing productivity and improving the economic condition of farmers.
2. Kurien (2005) highlighted the importance of technology adoption, institutional support and farmer participation in promoting agricultural and rural development.
3. Reddy and Reddy (2009) reported that modern agricultural inputs increase farm productivity and improve the socio-economic status of rural households.
4. Chand, Saxena and Rana (2015) found that modernization in agriculture contributes positively to income generation and rural economic development.
5. Singh and Sharma (2019) observed a significant relationship between technology adoption and livelihood improvement among farmers.
6. Verma and Patel (2023) concluded that farmers using modern agricultural technologies experience higher income, better savings and improved living standards.

OBJECTIVES

1. To study the adoption of modern agricultural practices among farmers.
2. To examine the socio-economic development of farmers.
3. To study the relationship between modern agricultural practices and socio-economic development.
4. To assess the impact of modern agriculture on income, employment, savings and investment.
5. To examine the effect of modern agricultural practices on education, health and safety.
6. To suggest measures for strengthening socio-economic development through agricultural modernization.

HYPOTHESIS

H₀: Modern agricultural practices have no significant impact on the socio-economic development of farmers.

RESEARCH METHODOLOGY

The study is analytical and descriptive in nature. Primary data were collected through interview schedules and questionnaires. Secondary data were collected from books, journals, government reports and research publications. The study was conducted in Durg District of Chhattisgarh. Three development blocks namely Durg, Dhamdha and Patan were selected. A total sample of 1,000 farmers was selected, comprising 600 farmers from Durg block, 300 farmers from Dhamdha block and 100 farmers from Patan block.

TOOLS AND TECHNIQUES

The following statistical techniques were used:

1. Percentage
2. Arithmetic Mean
3. Standard Deviation
4. Correlation
5. Regression Analysis



6. One-Way ANOVA

TABLE : 1
Overall Socio-Economic Development of Farmers

Category of Socio-Economic Development	Frequency	Percent
Low Development	200	20.0
Medium Development	500	50.0
High Development	300	30.0
Total	1000	100.0

INTERPRETATION

The table indicates that 50.0 percent of the farmers belong to the medium socio-economic development category. Further, 30.0 percent belong to the high development category, whereas 20.0 percent belong to the low development category. The findings suggest that the majority of farmers have achieved moderate to high levels of socio-economic development due to the adoption of modern agricultural practices.

TABLE 2
Regression Analysis between Modern Agriculture and Socio-Economic Development

Model	R	R Square	F Value	Significance (p-value)
1	0.814	0.663	468.52	0.000

INTERPRETATION

The regression analysis reveals that the value of R is 0.814, indicating a strong positive relationship between modern agricultural practices and socio-economic development. The R Square value of 0.663 indicates that 66.3 percent of the variation in socio-economic development is explained by modern agricultural practices. The obtained F-value of 468.52 is significant at the 0.01 level. Therefore, modern agricultural practices have a significant positive impact on socio-economic development.

RESULT

The null hypothesis is rejected. Modern agricultural practices have a significant positive impact on the socio-economic development of farmers in Durg District, Chhattisgarh.

CONCLUSION

The study concludes that modern agriculture plays a vital role in improving the socio-economic condition of farmers. The adoption of improved seeds, mechanization, irrigation facilities, fertilizers and pesticides, organic farming and sustainable agricultural practices has contributed positively to income growth, employment generation, savings and investment, educational development, health and safety, and overall quality of life. Modern agriculture therefore serves as an important catalyst for rural development and socio-economic transformation.

EDUCATIONAL IMPLICATIONS

1. Agricultural education should focus on practical training in modern agricultural technologies.



2. Farmer awareness programmes should be organized regularly.
3. Agricultural extension services should be strengthened.
4. Rural youth should be encouraged to adopt scientific farming practices.
5. Educational institutions should collaborate with agricultural agencies to promote innovation and technology transfer.

SUGGESTIONS

1. Farmers should be provided regular training on modern agricultural technologies.
2. Financial assistance and credit facilities should be expanded for small and marginal farmers.
3. Irrigation infrastructure should be strengthened.
4. Sustainable and organic farming practices should be promoted.
5. Market facilities and Farmer Producer Organizations should be strengthened to improve farmers' income.

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