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Problems Faced by Agricultural Farmers: An Empirical Study with Special Reference to Othukkungal Grama Panchayath

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***Abstract*-- Agriculture continues to be a key foundation of rural livelihoods in India; however, farmers encounter a wide range of challenges that affect both productivity and income stability. This study examines the economic, institutional, and environmental issues faced by agricultural farmers in Othukkungal Grama Panchayat, Kerala. The analysis is based on primary data collected from 50 respondents using a structured questionnaire.**

Both descriptive and inferential statistical methods, including Chi-square tests, correlation analysis, and multiple regression techniques, were applied. The findings indicate that increasing input costs, inconsistent irrigation facilities, restricted access to institutional credit, and inefficiencies in marketing systems significantly influence farmer income. The statistical results further reveal a strong negative relationship between input costs and profitability, while irrigation and credit access positively contribute to income stability. The study offers valuable insights and policy suggestions for enhancing agricultural sustainability.

***Keywords*-- Agricultural problems, Farmer Income, Agricultural Marketing, Climate change, Credit Access, Small and Marginal Farmers.**

I. Introduction

Agriculture has traditionally formed the backbone of the Indian economy by supporting employment generation and ensuring food security. Despite its importance, the sector is currently undergoing significant challenges that threaten its long-term sustainability. Farmers are increasingly impacted by escalating input costs, volatile market prices, insufficient infrastructure, and unpredictable climatic conditions. In the context of Kerala, agriculture is characterized by fragmented landholdings, rising labour costs, and declining profitability. Major crops such as paddy and coconut, which are vital to the regional economy, are particularly vulnerable to these challenges. Othukkungal Grama Panchayat in Malappuram district reflects a typical rural agricultural environment where such issues are clearly visible. This study aims to evaluate these challenges using empirical evidence and statistical analysis

II. Objectives Of The Study

a. To identify the major problems faced by farmers in inputs, finance, marketing, and climate.
b. To examine the socio-economic profile of farmers.
c. To analyze the relationship between key variables affecting farmer income.

III. Research Methodology

The study follows both descriptive and analytical research approaches to investigate the problems experienced by agricultural farmers. Primary data were gathered from 50 respondents using a structured questionnaire that included questions related to demographic characteristics, farming practices, input costs, irrigation facilities, financial access, marketing issues, and government support. Secondary data were obtained from books, research articles, official reports, and online sources. A convenience sampling method was adopted due to time and accessibility constraints.

The dependent variable considered in the study is farmer income stability, while independent variables include input cost, irrigation availability, and access to credit. The collected data were analysed using descriptive tools such as percentage analysis and tabulation, along with inferential techniques including Pearson correlation, multiple regression, and Chi-square tests to examine relationships among variables.

IV. Statistical Analysis

4.1 Correlation Analysis

Pearson Correlation Coefficient (r)
Results from Study
Input Cost vs Profitability -0.62
Irrigation vs Productivity +0.54
Credit Access vs Income Stability +0.49
Negative (-0.62) → Higher input cost reduces profitability
Positive (0.54) → Better irrigation improves productivity
Positive (0.49) → Credit access stabilizes income

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The Pearson correlation analysis indicates that input cost has a strong negative relationship (-0.62) with farmer income, suggesting that an increase in production expenses reduces profitability. On the other hand, irrigation availability (0.54) and credit access (0.49) show positive relationships with income, indicating that improved infrastructure and financial support enhance agricultural performance.

4.2 Regression Analysis

The multiple regression model was used to evaluate the combined influence of independent variables on farmer income. The regression equation is expressed as: The results show that input cost has a negative impact on income, whereas irrigation and credit access positively affect income stability. The R^2 value of 0.46 suggests that approximately 46% of the variation in income is explained by the model.

4.3 Chi-Square Test

The Chi-square test was applied to assess the association between credit access and loan repayment capacity. The results indicate a statistically significant relationship ($p < 0.05$), implying that access to institutional credit improves the financial stability of farmers.

The socio-economic analysis shows that the majority of farmers belong to the middle-age group and have only basic education. Most farmers operate on small and medium landholdings, which limits mechanization and productivity. Paddy cultivation is the dominant farming activity, followed by coconut cultivation.

The analysis reveals that rising input costs are a major problem faced by farmers. A majority of respondents reported that pesticides and fertilizers are expensive, which reduces profitability. Irrigation is another major concern, as water availability is inconsistent and depends largely on rainfall.

Access to credit is available to many farmers, but reliance on multiple sources indicates financial instability. Although government support schemes exist, delays in subsidy distribution reduce their effectiveness. Marketing inefficiencies, particularly the role of intermediaries, further reduce farmers' income.

Overall, the analysis shows that agricultural problems are interconnected and require comprehensive solutions.

V. Discussion

The findings indicate that agricultural distress is not caused by a single factor but is the result of interconnected economic, institutional, and environmental constraints.

The negative relationship between input costs and profitability highlights the growing burden of modern agriculture, where farmers are increasingly dependent on expensive inputs such as pesticides and fertilizers. This aligns with national trends observed in Indian agriculture. Irrigation plays a crucial role in stabilizing productivity. Farmers with access to consistent irrigation are less vulnerable to climatic uncertainties. However, the study reveals that a majority of farmers depend on irregular water supply, increasing their exposure to risk. Access to institutional credit emerges as a significant factor influencing income stability. Farmers with access to formal credit sources are better able to invest in inputs and manage risks compared to those relying on informal sources. The role of middlemen and market inefficiencies further reduces farmer income. Lack of storage and transportation infrastructure forces farmers to sell their produce at unfavorable prices.

VI. Conclusion

This study provides empirical evidence on the multifaceted challenges faced by agricultural farmers in Othukkungal Grama Panchayat. The findings demonstrate that rising input costs, inadequate irrigation, limited access to institutional credit, and market inefficiencies significantly constrain agricultural productivity and income stability.

The statistical analysis confirms that: Input costs negatively affect profitability Irrigation and credit access positively influence income Structural issues in markets and institutions worsen farmer vulnerability. The study emphasizes the need for integrated policy interventions that address both economic and infrastructural challenges.

VII. Policy Implications

Effective policy measures are required to address the challenges faced by farmers. These include improving irrigation facilities, ensuring timely distribution of subsidies, expanding institutional credit, reducing dependence on middlemen, and promoting sustainable farming practices.

VIII. Limitations And Future Research Scope

The study is limited to a specific geographical area and a small sample size. Future research can be conducted using larger samples and advanced statistical methods. Comparative studies across regions can provide broader insights.

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