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# Economic Impact of Agricultural Subsidies on Small and Marginal Farmers: A Case Study of Chickballapur Taluk, Karnataka.

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**Abstract**
This article focused on the economic impact of agriculture subsidies on small and marginal farmers in Chickballapur Taluk, Karnataka, India. Agriculture serves as the primary source of livelihood for most rural households in the region, The study explores various government-provided subsidies for seeds, fertilizers, irrigation, and crop insurance. These subsidies affect farmers' income levels, the cost of cultivation, and overall productivity. The research employs both qualitative and quantitative methods for collecting primary data from 60 farmers across six villages. Statistical tools, including chi-square tests, were used to analyse the relationship between subsidy awareness, utilization, and loan dependency. The findings highlight that awareness plays a critical role in subsidy access, with significant gaps among illiterate and resource-constrained farmers. While subsidies have positively impacted farm output and reduced input costs, their effect on reducing loan dependency is not statistically significant, indicating the influence of other economic factors. This study emphasizes the need for targeted policy interventions, streamlined subsidy delivery mechanisms, and robust awareness programs to ensure inclusive growth and improve the livelihoods of small and marginal farmers. The insights contribute to the broader discourse on sustainable agriculture, rural development, and food security in India.

**Keywords:** agriculture subsidies, small and marginal farmers, income, loan dependency, productivity, rural development.

## Introduction

Agriculture subsidies are the important policy tools used by the government of India to support agriculture farmers, mostly small and marginal farmers. These are the people who often face challenges like rising input prices, poor access to credit, and unpredictable weather and market price fluctuations, etc., so to reduce these, the government had designed the subsidies to reduce the financial burden on farmers and to increase agricultural productivity, income stability, and food security. As we know, in India, agriculture

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subsidies were introduced in the time of the Green Revolution in the 1960s, mainly to encourage high-yield varieties of seeds, fertilizers, and modern farming technology. Over time, subsidies help farmers by providing seeds, fertilizers, electricity, irrigation, crop insurance, machinery, and minimum support prices. Even the government implemented both national and state-level schemes to support the farmers, such as Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) to help and give financial support to farmers to improve their quality of life. Mostly, 85% of farmers are small and marginal in Chickballapur Taluk, where agriculture is the main occupation, and subsidies play a crucial role in sustaining livelihoods. However, many of the farmers are still unaware of the subsidies available to them, so they face difficulties in accessing them because of bureaucratic hurdles, illiteracy, and digital barriers.

**Motivation for the Study**

Agriculture continues to be the backbone of rural livelihoods in India, particularly for small and marginal farmers who constitute the majority in regions like Chickballapur Taluk. Despite numerous government subsidies aimed at supporting these farmers, many still struggle with low productivity, high input costs, and rising loan dependency. This raises questions about the real-world effectiveness of these subsidies. The existing literature predominantly offers national-level or generalized perspectives, leaving a gap in understanding localized, micro-level dynamics. Awareness barriers, procedural complexity, and digital illiteracy further prevent equitable access to these benefits. In Chickballapur, where over 85% of farmers fall into the small and marginal category, such gaps translate into missed opportunities for empowerment and growth. By empirically examining the relationship between subsidies, income, and loan reliance, this study aims to fill that void. It is motivated by the need to inform targeted policy reforms and improve implementation at the grassroots level. Ultimately, the study seeks to contribute to a more inclusive and sustainable rural development framework.

**Literature Review:**

Many reviews emphasize the role of subsidies in improving the productivity and financial stability of farmers. Muttalageri & Biradar (2012) highlighted the positive economic impact of subsidies in Karnataka. Kumar (2020) discussed the unequal distribution and mismanagement affecting small farmers. Amaglobeli et al. (2024) and Deveshwar & Panwar (2024) noted that while subsidies support productivity, they often Favor larger farmers and may lead to dependency. Li et al. (2022) showed that subsidies in China enhanced productivity and reduced poverty, yet their effectiveness varied regionally. Storm et al. (2023) revealed that complex subsidy structures deter optimal utilization by farmers.

**Research gap :**

While many studies focus on the overall impact of agricultural subsidies in India and abroad, there is a significant lack of region-specific, micro-level studies focusing on the challenges and outcomes faced by small and marginal farmers in areas like Chickballapur Taluk. The existing literature insufficiently addresses the practical barriers these farmers face, such as lack of awareness, procedural complexity, and limited digital access. Furthermore, although several papers mention the benefits of subsidies, few empirically test their association with loan dependency and real income improvements at the grassroots level. This research aims to fill these gaps by offering a contextual, evidence-based evaluation from the farmers' perspective in Chickballapur.

**Objectives :**

1. To analyze the awareness and accessibility of agriculture subsidies among small and marginal farmers in Chickballapur Taluk.
2. To evaluate the impact of agriculture subsidies on farmers' income, cost of production, and financial security.
3. Identify the challenges faced by farmers in accessing and using agriculture subsidies effectively.
4. Provide recommendations for improving the design and implementation of agriculture subsidy programs for small and marginal farmers.

**Hypothesis :**

Null Hypothesis (H0): Agricultural subsidies have no significant positive effect on the income of small and marginal farmers.

Alternate Hypothesis (H1): Agricultural subsidies have a major positive effect on the income of small and marginal farmers.

**Research Methodology**

This study adopts a mixed-methods research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of the economic impact of agricultural subsidies on small and marginal farmers in Chickballapur Taluk, Karnataka. The mixed-methods framework allows the study not only to quantify relationships between variables but also to explore the nuanced experiences and challenges faced by farmers in accessing subsidies.

Sample Design and Data Collection

The primary data was collected from a sample of 60 small and marginal farmers selected from six villages within Chickballapur Taluk. The villages were chosen using purposive sampling, ensuring coverage of diverse agro-climatic conditions and access levels to subsidy programs. The farmers were selected using random sampling within each village to minimize bias and ensure representativeness.

Tool for Data Collection

A structured questionnaire was developed and pre-tested for validity and reliability before final deployment. The questionnaire was administered through face-to-face interviews, allowing the researchers to clarify questions and collect detailed responses. The tool captured:

- Demographic information (age, landholding size, education, occupation),
- Awareness of agricultural subsidies (sources of information, familiarity with schemes),
- Subsidy utilization (types accessed: seed, fertilizer, irrigation, machinery, insurance),
- Economic outcomes (changes in income, input cost, loan dependency, and crop productivity),
- Challenges in access and delivery mechanisms.

Additionally, field observations and informal discussions were conducted to supplement and cross-validate the questionnaire responses.

Data Analysis Techniques

The collected data was coded and entered into statistical software (MS Excel and SPSS) for analysis. The quantitative analysis primarily used Chi-square tests of independence to examine associations between categorical variables such as:

- Awareness vs. Subsidy Receipt
- Subsidy Receipt vs. Loan Dependency

These statistical tests assessed whether significant relationships exist between farmers' knowledge of subsidy programs and their actual utilization, and whether receiving subsidies helps reduce financial reliance on agricultural loans.

Ethical Considerations

Respondents were briefed on the purpose of the study, and informed consent was obtained prior to data collection. Participants' confidentiality was maintained throughout, and the data was used solely for academic and policy-research purposes.

**Results and Discussions:**

The results section presents the findings of hypothesis testing based on the chi-square statistical method, providing insights into the relationships between subsidy awareness, subsidy access, and loan dependency among small and marginal farmers in Chickballapur Taluk.

**Hypothesis**

$H_0$: Awareness of agricultural subsidies is independent of receiving agricultural subsidies.

$H_1$: Awareness of agricultural subsidies is associated with receiving agricultural subsidies

**Chi-square table**

| **Awareness \ Receiving** | **No** | **Yes** |
|---|---|---|
| No | 2 | 1 |
| Yes | 0 | 57 |
| **Chi-Square Statistic ($\chi^2$)** | **21.34** | |
| **Degrees of Freedom** | **1** | |
| **P-value** | **0.000004** | |

The Chi-Square Test reveals a statistically significant association between farmers' awareness of agricultural subsidies and their actual receipt of these subsidies ($\chi^2 = 21.34$, $p = 0.000004$). The analysis shows that farmers who are aware of the subsidies are substantially more likely to avail themselves of the benefits, whereas those who lack awareness largely miss out on receiving them. This underscores the crucial role that awareness, information dissemination, and effective communication strategies play in ensuring that government-provided agricultural support schemes reach the intended beneficiaries. Enhancing awareness among farmers could lead to improved participation and better utilization of subsidy programs, thereby strengthening the agricultural sector's growth and sustainability.

**Formulated Hypotheses No II**

$H_0$: There is **no significant association** between receiving agricultural subsidies and reduced dependency on loans.

$H_1$: There **is a significant association** between receiving agricultural subsidies and reduced dependency on loans.

**Chi-square Results**

| **Receiving Subsidy \ Loan Dependency** | **No** | **Yes** |
|---|---|---|
| **No** | 2 | 0 |

| | | |
|---|---|---|
| **Yes** | 14 | 44 |
| **Chi-Square Statistic ($\chi^2$)** | 2.22 | |
| **Degrees of Freedom (df)** | 1 | |
| **P-value** | 0.1363 | |

Since the p-value (0.1363) is greater than the commonly used significance level of 0.05, we fail to reject the null hypothesis. This indicates that there is no statistically significant association between receiving agricultural subsidies and a reduction in dependency on loans, based on the current sample data.

While the descriptive analysis shows that a higher number of farmers who receive subsidies report reduced reliance on loans (44 out of 58 subsidy recipients), the statistical test suggests that this observed difference could have occurred by chance and is not strong enough to confirm a significant relationship. Therefore, the effect of receiving subsidies on lowering farmers' loan dependency is not conclusively supported by this dataset.

This finding highlights the need for further investigation, possibly involving a larger or more diverse sample, to determine whether subsidies effectively reduce loan dependency. Additionally, it suggests that factors other than subsidies—such as farm income levels, access to credit, or cost of production—might also play a crucial role in influencing farmers' reliance on loans.

**Policy recommendations:**

The findings of several strategic recommendations and policy suggestions can be drawn to enhance the efficacy of agricultural subsidies in Chikkaballapur Taluk. Firstly, awareness among farmers regarding available subsidies needs to be enhanced through local, targeted campaigns, training courses, and community outreach. This is to be carried out in conjunction with local government agencies and NGOs. The subsidy application process needs to be streamlined so that farmers particularly the less educated can have access to the subsidy benefits easily, this can involve computerization of the application process but with safeguards for those who are digitally illiterate like making available paper-based facilities or support in filling out applications extension services must be enhanced to provide technical support and advice to farmers. On best practices in crop care disease management and soil nutrient conservation such services can be provided through farmer cooperatives local agricultural extension offices or regular visits by mobile extension teams to farms promoting the establishment of farmer collectives such as farmer producer organizations( FPOS) and self-help groups SHGS, can facilitate better access to subsidies, credit, and market access for small farmers the collectives can also be used as platforms for the sharing of information and peer support incorporation of technology within the process of distributing subsidies will make it more efficient establishing mobile apps or kiosks that allow farmers to request subsidies, follow the status and receive up-to-date updates will make it simpler and take out the hindrance of time further an enhanced mechanism of grievance redressal would provide it with transparency as well as accountability. Lastly subsidies need to be tailored to the specific requirements of farmers in various areas for instance in regions that are water-starved subsidies for water-efficient irrigation systems or drought-resistant varieties may be a priority, moreover the government needs to provide more support for sustainable agriculture practices and organic inputs motivating farmers to shift towards eco-friendly methods that can have long-term rewards.

**Conclusion:**

This study indicates that agricultural subsidies have become important in keeping the small and marginal farmers of chikkaballapur taluk. However, some obstacles must be overcome before these subsidies can become a truly life-giving force to eliminate their problems of lack of awareness about the programs, difficulty in accessing them and inefficient use are just some of the obstacles that prevent these subsidies from having full impact the study also points to a need for a targeted intervention, particularly for younger farmers to mitigate issues that confront the aging farming populace. Furthermore, these research findings highlight existing gaps in financial inclusion, market access, and education, which only aggravate the plight of farmers. To enhance the working of these subsidies, the government should focus attention on fine-tuning targeting, increasing the accessibility of financial resources, creating more market opportunities, and improving education and training for farmers to effect real change. A total redesign would be essential, including changes to policies, better infrastructure, and capacity building.

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