

“An Analytical Study on Agricultural Accounting Practices and Their Impact on the Profitability of Small Farmers in the Thane Region, Maharashtra.”

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ABSTRACT

Agriculture remains the backbone of the rural economy in Maharashtra, particularly in the Thane region where small and marginal farmers constitute a significant proportion of the agricultural workforce. Despite rising production costs and market uncertainties, many farmers continue to operate without systematic financial planning or accounting practices. Agricultural accounting plays a crucial role in improving cost control, profitability assessment, and informed decision-making.

The present study analyses the agricultural accounting practices followed by small farmers in the Thane region and examines their impact on farm profitability. The study is based on primary data collected from 50 small farmers through a structured questionnaire and supplemented by secondary data from reputed journals, government reports, and international agricultural institutions. The findings indicate that while a majority of farmers recognise the importance of maintaining farm accounts, only a limited number follow systematic written or digital accounting practices. Farmers who maintain proper records exhibit better cost awareness, clearer profit assessment, and improved financial sustainability.

The study concludes that agricultural accounting has a positive and significant impact on the profitability of small farmers. It strongly recommends training programmes, simplified accounting formats, and the promotion of digital agricultural accounting tools to improve financial management in the rural agricultural sector.

Keywords: Agricultural Accounting, Farm Profitability, Small Farmers, Financial Management, Cost Control, Thane Agriculture

1. INTRODUCTION

Agriculture continues to be a vital sector of the Indian economy, providing livelihood to more than half of the country's workforce. In regions like Thane district of Maharashtra, agriculture is predominantly practiced by small and marginal farmers operating on limited landholdings. These farmers face numerous challenges such as fluctuating market prices, rising input costs, dependence on monsoon rainfall, and limited access to institutional finance.

One of the major but often overlooked challenges is the lack of systematic agricultural accounting practices. Most farmers concentrate on production activities while ignoring financial record-keeping. In the absence of proper accounting systems, farmers are unable to accurately calculate production costs, assess profits or losses, or plan future investments. Consequently, even productive farms often fail to achieve satisfactory income levels.

1.1.MEANING AND CONCEPT OF AGRICULTURAL ACCOUNTING

Agricultural accounting refers to the systematic recording, classification, summarisation, and analysis of financial transactions related to farming activities. These activities include the cost of seeds, fertilisers, pesticides, labour, irrigation, machinery, and income from the sale of agricultural produce.

According to the Food and Agriculture Organization (FAO), farm record-keeping is an essential management tool that helps farmers improve resource allocation and profitability. Agricultural accounting differs from conventional business accounting due to the seasonal nature of income, dependence on natural factors, and the involvement of biological assets such as crops and livestock.

1.2.BACKGROUND OF THE STUDY – THANE REGION

The Thane region of Maharashtra exhibits a diverse agricultural structure characterised by tribal farming systems, semi-urban agriculture, and traditional cultivation practices. Despite increasing urbanisation, agriculture continues to be an important livelihood activity, particularly in rural and tribal talukas such as Murbad and Shahapur. Most farmers in the region are small and marginal, owning less than two hectares of land, and are engaged in crop farming, mixed farming, dairy, or small-scale poultry activities. Limited landholdings restrict economies of scale and increase dependence on efficient resource management for farm sustainability.

Primary data collected for the present study indicates that a significant proportion of farmers rely on memory-based or informal accounting methods rather than maintaining systematic written or digital farm records. Similar patterns have been reported by FAO and NABARD, which note that small farmers often lack formal training in financial management and therefore depend on estimation and personal recall for tracking expenses and income.

Reliance on informal accounting practices leads to several managerial and financial challenges. Farmers frequently underestimate actual production costs by ignoring implicit costs such as family labour and depreciation of farm assets. At the same time, profits are often overestimated, as income is not accurately matched with total expenditure. The absence of reliable financial records also contributes to poor financial planning, limited ability to assess farm performance, and inefficient utilisation of inputs such as fertilisers, labour, and capital. Consequently, farmers face difficulties in improving profitability, accessing institutional credit, and making informed production decisions.

1.3. NEED FOR THE STUDY

With increasing commercialisation of agriculture and rising cost pressures, the adoption of agricultural accounting has become essential. Proper accounting helps farmers to:

- 1.3.1.** Track every expense and income source
- 1.3.2.** Identify profitable and non-profitable crops
- 1.3.3.** Control unnecessary expenditure
- 1.3.4.** Improve access to bank credit and government schemes

Despite its importance, the adoption level of accounting practices among small farmers in Thane remains low, creating a strong justification for this study.

1.4. Scope of the Study

The scope of the present study is confined to analysing agricultural accounting practices adopted by small farmers in the Thane region of Maharashtra. It includes farmers owning limited landholdings and engaged in crop farming, mixed farming, dairy, and poultry activities. The study focuses on record-keeping practices, cost measurement, profit assessment, and financial decision-making. It also examines the role of accounting in improving access to institutional credit and government schemes. The analysis is based on primary data collected from 50 respondents through a structured questionnaire.

1.5.Limitations of the Study

The study is based on a small sample of 50 farmers and may not represent all farmers in the region. Convenience sampling has been used, which limits wide generalisation of the findings. The study relies on information provided by respondents, which may not always be precise. It is restricted to the Thane region and does not cover other geographical areas. Limited time and availability of detailed financial data are additional constraints.

1.6.Objectives of the Study

- 1.6.1.** To examine the agricultural accounting practices followed by small farmers in the Thane region.
- 1.6.2.** To analyse the impact of accounting practices on the profitability of small farmers.
- 1.6.3.** To identify problems faced by farmers in maintaining farm accounts.
- 1.6.4.** To suggest measures for improving accounting awareness and financial management among farmers.

1.7. HYPOTHESES

- 1.7.1.** H_{01} : There is no significant adoption of agricultural accounting practices among small farmers in the Thane region.
- 1.7.2.** H_{11} : There is significant adoption of agricultural accounting practices among small farmers in the Thane region.
- 1.7.3.** H_{02} : Agricultural accounting practices do not significantly affect the profitability of small farmers.
- 1.7.4.** H_{12} : Agricultural accounting practices significantly affect the profitability of small farmers.

2. Review of Literature

2.1 Singh, R., & Kumar, P. (2018). Singh and Kumar examined farm accounting practices among small farmers in India and found that farmers who maintained systematic records had better cost control and income stability. The study highlighted that proper bookkeeping improved financial awareness and farm decision-making. It also reported a positive relationship between education level and adoption of accounting practices. The authors recommended training programmes to promote farm record-keeping among small farmers.

2.2 Rathod, S. (2020). Rathod analysed financial literacy levels among rural farmers and identified lack of accounting knowledge as a major barrier to record-keeping. The study revealed that farmers with limited financial awareness relied heavily on memory-based estimation methods. This resulted in poor financial planning and weak cost management. The study emphasised the need for financial literacy initiatives in rural areas.

2.3 Food and Agriculture Organization (FAO). (2019). The FAO highlighted that farm record-keeping is a key management tool for smallholders. According to the report, maintaining proper records enhances farmers' ability to access institutional credit and agricultural subsidies. It also helps in monitoring farm performance and planning future activities. The FAO recommended simplified accounting formats for small farmers.

2.4 Government of Maharashtra. (2022). The Government of Maharashtra reported that despite technological progress in agriculture, financial management among small farmers remains weak. The report noted that many farmers do not maintain formal farm accounts, limiting access to government schemes. Inadequate financial planning was identified as a contributor to low farm profitability. The study suggested integrating accounting training with extension services.

2.5 Dutta, H., & Das, D. (2020). Dutta and Das examined farm accounting practices in India and observed that agricultural accounting is still at a rudimentary stage. The study found that small farmers rarely maintain structured accounts due to subsistence-oriented farming. Lack of standardised accounting methods led to inaccurate profit measurement. The authors stressed the importance of treating farming as a business enterprise.

2.6 Waysal, S. D., & Kawade, V. P. (2025). This study analysed record-keeping practices among rural farmers and found that the majority relied on memory or informal notes. Poor record-keeping was associated with weak financial control and limited access to institutional credit. The study identified education and training as key determinants of accounting adoption. It recommended structured literacy programmes for farmers.

2.7 Ubha, D. S., & Shergill, S. S. (2023). Ubha and Shergill discussed the status of agricultural accounting in India and found that it is largely neglected by farmers. The study pointed out that farmers often fail to track costs systematically. This leads to distorted estimates of profitability. The authors highlighted the role of agricultural accounting in improving farm sustainability.

2.8 Bolaji, S. A. (2021). Bolaji examined the impact of farm record-keeping on farm business profitability. The study concluded that farmers who maintained accurate financial records achieved higher profitability and better resource utilisation. Lack of accounting skills was identified as a major constraint. The study recommended digitisation of farm accounting systems.

2.9 Rani, S., & Singh, K. (2024). This study evaluated the impact of financial literacy programmes on rural farmers and found that training significantly improved financial decision-making. Farmers who received financial education showed better credit utilisation and planning ability. The study emphasised integrating financial literacy with agricultural development policies. Improved accounting practices were linked to economic empowerment.

2.10 NABARD. (2021). NABARD reported that absence of proper financial records limits small farmers' access to institutional credit. The study highlighted that banks prefer farmers with documented income and expenditure records. Poor accounting practices increase dependence on informal credit sources. NABARD emphasised financial literacy as a tool for inclusive rural development.

3. RESEARCH METHODOLOGY

3.1.Nature of the Study

The present research is descriptive and analytical in nature. The descriptive aspect of the study focuses on understanding the existing agricultural accounting practices followed by small farmers in the Thane region, such as whether they maintain farm records, the type of records kept, and the methods used for accounting. At the same time, the analytical approach is used to examine the relationship between accounting practices and farm profitability, cost control, decision-making, and access to financial benefits. This combination of descriptive and analytical research enables a comprehensive understanding of both the current practices and their economic implications for small farmers.

3.2.Sources of Data

The study is based on both primary and secondary data sources, ensuring reliability and depth of analysis.

3.3.Primary Data

Primary data were collected directly from 50 small farmers residing in different areas of the Thane region. A structured questionnaire was designed and administered using Google Forms. The questionnaire included:

- 3.3.1.** Demographic details such as age, education level, landholding size, type of farming, and farming experience
- 3.3.2.** Questions related to accounting practices, such as maintenance of income and expense records, cost calculation, use of written or digital records, and preparation of profit or loss statements
- 3.3.3.** Perception-based statements measured on a Likert scale to assess the perceived benefits of accounting practices, including cost control, profitability, crop selection, and credit access
- 3.3.4.** Questions identifying problems faced in maintaining accounts, such as lack of knowledge, time constraints, and need for training

The responses obtained indicate that many farmers maintain partial or informal records, while only a limited number follow systematic accounting practices. These responses formed the core dataset for analysis.

3.4. Secondary Data

Secondary data were collected from:

- 3.4.1.** Research journals related to agricultural economics, accounting, and rural finance
- 3.4.2.** Standard textbooks on agricultural finance and farm management
- 3.4.3.** Publications and reports of the Food and Agriculture Organization (FAO)
- 3.4.4.** Reports and statistics published by the Government of Maharashtra and NABARD

Secondary data were mainly used to support the conceptual framework of the study, review earlier research, and compare the study findings with existing literature.

3.5. Sampling Method

The study adopted the convenience sampling method. Farmers who were easily accessible and willing to respond through the online questionnaire were included in the sample. Since the study focuses on small farmers and exploratory insights into accounting practices rather than population-wide generalisation, convenience sampling was found appropriate. The sample size of 50 respondents was considered adequate to capture variations in accounting behaviour among small farmers in the Thane region.

3.6. Tools and Techniques Used

The following tools and techniques were employed for data collection and analysis:

3.6.1 Questionnaire Method

A structured questionnaire was used as the primary tool for collecting data from small farmers in the Thane region. The questionnaire consisted of demographic questions, accounting practice-related questions, and perception-based statements measured on a Likert scale. The structured format ensured consistency and reliability in data collection.

3.6.2 Percentage Analysis

Percentage analysis was used to analyse demographic characteristics and responses related to agricultural accounting practices. The technique helped in understanding the proportion of farmers maintaining farm records, calculating production costs, preparing profit and loss statements, and using different methods of record keeping.

3.6.3 Descriptive Statistical Analysis

Descriptive statistics such as Mean, Standard Deviation, Frequency, and Percentage were used to summarise and interpret the responses. These statistical measures helped in assessing the level of adoption of agricultural accounting practices, the perceived impact on profitability, and the challenges faced by farmers in maintaining farm accounts.

3.6.4 One-Sample t-Test

The One-Sample t-Test was used to test the research hypotheses related to the adoption of agricultural accounting practices and their impact on profitability. The test helped determine whether the observed mean scores differed significantly from the selected test value. The results were interpreted using a 5 percent level of significance ($p < 0.05$).

3.6.5 Comparative Analysis

Comparative analysis was employed to compare the responses of farmers with different accounting practices. The comparison helped identify differences in cost control, profitability assessment, financial decision-making, and overall farm management efficiency.

3.6.6 Qualitative Interpretation

Qualitative interpretation was used to analyse perception-based responses and identify key issues affecting agricultural accounting practices. This technique helped in understanding challenges such as lack of accounting knowledge, insufficient training, time constraints, and limited use of digital accounting tools among farmers.

4 DATA ANALYSIS AND INTERPRETATION

4.6 Gender of Respondents

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	32	64.0	64.0	64.0
Female	18	36.0	36.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The above table shows that 64% of respondents are male and 36% are female. This indicates that male farmers constitute most respondents in the study area.

4.2 Age of Respondents

Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
Below 30 years	8	16.0	16.0	16.0
31–40 years	14	28.0	28.0	44.0
41–50 years	18	36.0	36.0	80.0
Above 50 years	10	20.0	20.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The majority of respondents belong to the age group of 41–50 years (36%), followed by 31–40 years (28%). This indicates that experienced middle-aged farmers dominate the sample.

4.3 Educational Qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Primary	9	18.0	18.0	18.0
Secondary	16	32.0	32.0	50.0
Higher Secondary	14	28.0	28.0	78.0
Graduate and Above	11	22.0	22.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The analysis shows that most respondents have secondary-level education (32%), while 22% are graduates or above. This indicates a moderate educational background among farmers.

4.4 Farming Experience

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
Below 5 years	7	14.0	14.0	14.0
5–10 years	16	32.0	32.0	46.0
Above 10 years	27	54.0	54.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

More than half of the respondents (54%) possess over 10 years of farming experience, indicating practical knowledge and long-term involvement in agricultural activities.

4.5 Maintenance of Farm Records

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	31	62.0	62.0	62.0
No	19	38.0	38.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The majority of farmers (62%) maintain some form of farm records, while 38% do not maintain records systematically.

4.6. Method of Record Keeping

Method	Frequency	Percent	Valid Percent	Cumulative Percent
Memory-based	20	40.0	40.0	40.0
Notebook/Register	24	48.0	48.0	88.0
Mobile Application	6	12.0	12.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The majority of respondents (48%) use notebooks or registers for maintaining farm accounts, while only 12% use digital applications.

4.7. Cost Calculation Practices

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	34	68.0	68.0	68.0
No	16	32.0	32.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

The analysis indicates that 68% of respondents calculate cultivation costs before making production decisions.

4.8. Profit or Loss Assessment

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	27	54.0	54.0	54.0
No	23	46.0	46.0	100.0
Total	50	100.0	100.0	100.0

Interpretation

More than half of the respondents prepare profit or loss assessments, which reflects growing awareness regarding farm financial management.

4.9. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Adoption of Accounting Practices	50	20	100	78.40	18.210
Profitability Impact	50	25	100	82.60	17.420
Challenges and Benefits	50	20	100	74.10	19.305

Interpretation

The mean score of adoption of accounting practices is 78.40, indicating that respondents moderately adopt agricultural accounting methods. The profitability impact mean score of 82.60 suggests strong agreement that accounting practices positively influence profitability.

5 Hypothesis Testing

5.6 Objective 1

To examine the agricultural accounting practices followed by small farmers in the Thane region.

Null Hypothesis (H_{01})

There is no significant adoption of agricultural accounting practices among small farmers in the Thane region.

Alternate Hypothesis (H_{11})

There is significant adoption of agricultural accounting practices among small farmers in the Thane region.

To study the above null hypothesis, One-Sample t-test is applied. The results are as follows:

One-Sample Test

Test Value = 50

Variable	t	df	P-value	Mean Difference
Agricultural Accounting Practices	10.987	49	0.000	28.400

Interpretation

The above results indicate that the p-value is 0.000, which is less than the standard significance value of 0.05. Therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

Conclusion

There is significant adoption of agricultural accounting practices among small farmers in the Thane region.

5.7 Objective 2

To analyse the impact of accounting practices on the profitability of small farmers.

Null Hypothesis (H_{02})

Agricultural accounting practices do not significantly affect the profitability of small farmers.

Alternate Hypothesis (H_{12})

Agricultural accounting practices significantly affect the profitability of small farmers.

To study the above null hypothesis, One-Sample t-test is applied. The results are as follows:

One-Sample Test

Test Value = 50

Variable	t	df	P-value	Mean Difference
Profitability Impact	13.230	49	0.000	32.600

Interpretation

The above results indicate that the p-value is 0.000, which is less than the standard significance value of 0.05. Therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

Conclusion

Agricultural accounting practices significantly affect the profitability of small farmers.

5.8 Problems Faced by Farmers in Maintaining Farm Accounts

Problems	Frequency	Percentage
Lack of accounting knowledge	21	42.0
Lack of time	11	22.0
Low education level	8	16.0

Lack of digital skills	6	12.0
No perceived need	4	8.0
Total	50	100.0

Interpretation

The above table indicates that lack of accounting knowledge is the major problem faced by farmers in maintaining farm accounts.

5.9 Suggestions for Improving Accounting Awareness and Financial Management

- 5.4.1 Conduct training programmes on agricultural accounting practices.
- 5.4.2 Promote simple and farmer-friendly accounting formats.
- 5.4.3 Encourage the use of mobile applications for record keeping.
- 5.4.4 Improve awareness regarding profitability analysis and cost management.
- 5.4.5 Provide financial literacy support through agricultural extension services.

6 Findings

- 6.1 The majority of respondents are male farmers.
- 6.2 Most respondents belong to the age group of 41–50 years.
- 6.3 A majority of farmers maintain farm records.
- 6.4 Notebook-based accounting is more common than digital accounting.
- 6.5 Farmers strongly agree that accounting practices improve profitability.
- 6.6 Lack of accounting knowledge remains a major challenge.
- 6.7 Agricultural accounting practices significantly influence financial decision-making.

7 Conclusion

The study concludes that agricultural accounting practices play a vital role in improving the profitability and financial management of small farmers in the Thane region. Farmers maintaining systematic records are better able to monitor costs, evaluate profits, and make informed decisions. Therefore, awareness programmes and accounting training should be promoted to improve financial sustainability in agriculture.

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