"Financial Literacy and its effect on the financial wellbeing of farmers"

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Abstract:
The consequences of low financial literacy extend far beyond individual hardships. Financial difficulties, often exacerbated by limited knowledge, lead to debt burdens, inability to invest in crucial inputs, and vulnerability to unforeseen shocks. This distress manifests in anxiety, depression, and extreme cases, the tragic reality of farmer suicides – a grim statistic with 10,281 lives lost in 2019 alone (NCRB, 2020). The impact doesn't stop there. Financial distress in agriculture, the backbone of India's economy, ripples through society, reducing agricultural output, hampering rural development, and contributing to social unrest. Empowering farmers financially is not only about improving their well-being but also about ensuring the sustainable development of the agricultural sector and the overall economic prosperity of India. By closing this knowledge gap and developing targeted interventions, we can unlock the immense potential of Indian agriculture and pave the way for a future where farmers thrive, not just survive.

Keywords: Financial Literacy, Financial Distress, Sustainable Development, Financial Well-Being.

Introduction

In India, only 27% of the population is financially literate, meaning only one out of every five Indians is equipped to deal with one of the most crucial aspects of human well-being.
The average Indian farmer has a poor understanding of financial management, with a score of 33.85% and 27.34% respectively. This lack of knowledge affects their income, spending habits, savings, and access to financing, making them vulnerable to predatory practices and exorbitant interest rates from informal moneylenders**.**
Low financial literacy leads to debt burdens, inability to invest in inputs, and vulnerability to shocks. This distress affects agriculture, reducing output and contributing to social unrest. However, empowering farmers with financial knowledge can reduce vulnerability and improve their well-being. Studies show that a 10% increase in financial literacy can lead to a 3% increase in agricultural income, highlighting the potential economic gains of financial empowerment.
While existing research investigates a clear picture of the challenges faced by Indian farmers and the potential benefits of financial literacy, crucial gaps remain. Limited studies have explored the specific financial challenges faced by different farmer categories (e.g., marginal vs. large), and the effectiveness of existing financial literacy initiatives requires deeper evaluation. Additionally, the psychological impact of financial distress on farmers demands further investigation.
Addressing this critical knowledge gap is not just an academic pursuit; it is a matter of national importance. Empowering farmers financially is not only about improving their individual well-being but also about ensuring the sustainable development of the agricultural sector and the overall economic prosperity of India. By closing this knowledge gap and developing targeted interventions, we can unlock the immense potential of Indian agriculture and pave the way for a future where farmers thrive, not just survive.

Need of study

Farmers in India are demanding higher support prices and loan waivers for their produce. The Uttar Pradesh and Punjab governments have announced waivers of up to Rs 2 lakh for small and marginal farmers and a flat Rs 2 lakh relief for all marginal farmers. However, State Bank of India chairman Arundhati Bhattacharya argues that support is necessary but not at the cost of credit discipline. Farmers face both controllable and uncontrollable risk factors, and a study on farmers' financial literacy can help agencies like governments and banks increase financial literacy and better utilize resources.

Literature Review

T.P. Arjun and R. Subramanian (2024) described in their study that 13 out of 36 studies defined FL conceptually, while 87% of the 36 studies only considered knowledge as the domain of FL, and 39% treated knowledge, ability/skill, and attitude elements together. Indians favored investment/saving content among FL measures, and over half (20/36) did not translate FL level into (=) one measure (e.g., score, sum, percentage, etc.).

The authors explore the effect of demographic and socio-economic determinants with reference to financial literacy and its implications on financial service for 400 unorganized sector workers in West Bengal, India. Jana, D., Sinha, A., & Gupta, A. (2024). Findings show occupation and income, as well as educational qualifications as significant explanatory variables, and income and domicile as positive determinants.

Rani, M., & Siwach, M. (2023), The financial literacy of retired workers helps them to increase their well-being. The level of financial literacy in retired workers was tested based on variables such as inflation, compound interest rates, and risk diversification. Financial literacy levels and demographic factors are related to behavioral biases. Indian investors suffer from anchoring and emotional biases. Self-attribution, herding, mental accounting, representativeness, and overconfidence add to it. Financial literacy negatively correlates with a herding bias and disposition but positively correlates with financial wellbeing

Das, S., & Maji, S. K. (2023) The study investigates the impact of Big-Five personality traits on financial literacy and risk propensity in four southern Indian cities. Results show that these traits significantly influence financial literacy, attitude, behavior, knowledge, and decision influences, with financial attitude positively influencing risk propensity.

Raza et al (2023) The increasing greenhouse gas emissions have deteriorated the agricultural sector globally, leading to food insecurity. In developing economies, low-efficient practices and financial exclusion hinder sustainable development. A study in Pakistan found that small-scale farms can sustain their performance by improving financial inclusion and literacy. Trust in extension services for agriculture moderates the impact of knowledge, skills, attitude, behavior, access, usage, quantity, and welfare on sustainable farm performance. Increased trust in financial services is crucial for sustainable agricultural performance.

Lahiri, S. and Biswas, S. (2022) The study aims to empirically analyze whether financial literacy can improve the financial behavior of individuals in the context of emerging markets like India. The analysis suggests that an improvement in financial literacy scores indeed increases the likelihood of exhibiting superior financial behavior. The results are robust to alternative definitions of financial literacy, outcome variables and inclusion of additional controls. The authors find that financial literacy increases financial planning, and this, in turn, possibly improves financial behavior. The effects are prominent for those residing in the urban area and having confidence in their financial skills.

Ravikumar, T., et al (2022) The study identifies Digital Financial Literacy (DFL) determinants among Indian adults using Digital Financial Services (DFS). A survey of 384 users found that digital knowledge, financial knowledge, awareness of digital finance risk, and decision-making skills are key determinants. Without DFL, users face challenges like transaction inability, financial loss, and privacy breaches.

Kumari, P. L., Anupama, G., & Reddy, K. G. (2018). Lack of education, reliable market information, initiation from their children, and ignorance are the major challenges in adopting Digital India Program Initiatives. The paper highlighted the potential for knowledge sharing among small and marginal farmers and its impact in terms of increased productivity and well-being of the community has become crucial in present conditions.

Financial literacy comprises knowledge as well as the use of human capital in the context of personal finance. The level of overall endowed and attained human capital influences a person's financial literacy and financial well-being.

Das, S., & Maji, S. okay. (2023) The study investigates the impact of massive-5 personality trends on monetary literacy and hazard propensity in 4 southern Indian towns. consequences display that these tendencies drastically impact economic literacy, mind-set, conduct, understanding, and decision affects, with monetary attitude positively influencing danger propensity.

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Research Gap

Based on the literature review research gap identified by the researchers regardless of a country's degree of economic growth, there is a low level of financial literacy among the various demographic groupings of its population.

The levels of financial literacy and demographic characteristics have a strong link. According to the literature study, there is a substantial association between financial literacy levels and demographic parameters such as age, gender, education, income level, and work experience. There is a relationship between the financial literacy of individuals and their financial well-being there is little research available in the field of farmer financial literacy.

Objectives of the Study

1. To assess the financial literacy levels among farmers in India, particularly in Maharashtra.
2. To examine the impact of financial literacy on the financial well-being of farmers.
3. To analyze the role of financial knowledge, financial attitude, and financial behavior in shaping farmers' financial well-being.
4. To identify key factors contributing to financial distress among farmers, including debt burden and lack of investment knowledge.
5. To evaluate the influence of financial literacy on farmers' savings, borrowing habits, and investment decisions.

Hypotheses:

H1: There is a significant impact of financial literacy on financial well-being.

H2: There is a significant impact of financial knowledge, Financial Attitude, and Financial Behavior on the Financial well-being of Farmers.

Scope of study

The researcher examines financial literacy among farmers, defining it as a set of skills and knowledge that enable informed decision-making and understanding of financial principles. The study evaluates farmers' basic

understanding of financial literacy using a questionnaire, highlighting its impact on their financial well-being and farm management.

Research Methodology:

Delving into Financial Literacy and its Impact on Indian Agriculture, this research, investigating the relationship between financial literacy and its impact on Indian agriculture, will employ a mixed-methods approach, combining quantitative and qualitative data collection and analysis techniques.

Quantitative Data Collection:

Survey: A cross-sectional survey will be conducted among a representative sample of farmers across various Indian states, covering diverse farm sizes, demographics, and agricultural practices. The survey instrument will be developed based on existing financial literacy assessment tools and adapted to the Indian context. It will measure farmers' financial knowledge, attitudes, and behavior related to income management, savings, debt, investments, and financial decision-making.

A farmer is an individual who works in agriculture, raising organisms for food or raw materials. They can own or work on farmed land, and in sophisticated economies, they are typically farm owners, while farm workers are farm employees

Reserve bank of India divided farmers as per cultivating (as owner or tenant or share cropper) agriculture land holding as

- Marginal Farmer: Agriculture land up to 1 hectare (2.5 acres)
- Small Farmer: Agriculture land of more than 1 hectare and up to 2 hectare (5 acres)
- Other Farmer: Agriculture land of more than 2 hectares (More than 5 acres).

Non-probability sampling method would be opted for data collection (convenience sampling, purposive sampling, snowball sampling) any sampling type as per requirement would be used to collect data. The sample is selected based on non-random criteria, and not every member of the population has a chance of being included.

Secondary Data Analysis: Existing data sets from government agencies like RBI, NABARD, and NSSO will be utilized to analyze factors influencing financial literacy, such as access to financial services, educational attainment, and regional economic indicators.

Questionnaire design

The Chen and Volpe (1998) questionnaire will be used in order to measure financial literacy of individuals. Question will try to consider the most important personal finance factors in the measurement of financial literacy. These factors include: general knowledge of finance, savings and loan, investment, insurance and financial decisions, financial opinions and financial training. A five-option Likert scale would be used in the questionnaire so that the score 1 represents the worst and 5 indicates the best situation for an individual upon Measuring Financial Wellbeing A questionnaire designed by Prawitz et al. (2006) would use to measure respondents' financial wellbeing. A ten-option scale will be designed and respondents would be asked to choose the most appropriate score on their own position so that the lowest score indicates the financial pressure and the highest score is an indicator of financial well-being.

Quantitative Data Analysis:

Descriptive statistics, regression analysis, and ANOVA will be used to analyze the quantitative data. This will help identify the level of financial literacy among different farmer categories, examine the relationship between financial literacy and key financial variables (income, debt, savings), and assess the impact of financial literacy on investment behavior and agricultural productivity.

Reliability Statistics

Table no 1

Name of the Variable	No of Items	Cronbach Alpha

Financial Knowledge	7	0.714
Financial Attitude	3	0.812
Financial Behaviour	9	0.892
Financial Well Being	6	0.825

Analysis & Interpretation:

The Cronbach's Alpha values indicate the reliability and internal consistency of the scale used to measure financial literacy and financial well-being.

- Financial Knowledge (0.714): Acceptable reliability, suggesting that the items measuring financial knowledge are consistent.
- Financial Attitude (0.812): Good reliability, meaning the items measuring financial attitude are internally consistent.
- Financial Behavior (0.892): Very high reliability, indicating strong internal consistency.
- Financial Well-being (0.825): Strong reliability, supporting the validity of the scale in measuring financial well-being.
  Since all values are above 0.7, the scale used in this study is reliable for further analysis.

Data Analysis Frequencies
Table no 2

Statistics				
		Income level	Landholding	Education
N	Valid	199	199	199
	Missing	0	0	0

Data Analysis Frequencies
Table no 3

Income level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low Income	66	33.2	33.2	33.2
	Medium income	90	45.2	45.2	78.4
	High Income	43	21.6	21.6	100.0
	Total	199	100.0	100.0	

Analysis & Interpretation:

- Low Income (33.2%): A significant portion of farmers fall into this category, indicating financial vulnerability.
- Medium Income (45.2%): The majority of farmers belong to this group, suggesting they have moderate financial stability.
- High Income (21.6%): A smaller fraction of farmers earn high incomes, reflecting that only a few have strong financial stability**.**

Data Analysis Frequencies
Table no 4

Landholding				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Less than 1 acre	74	37.2	37.2	37.2
	1-5 Acre	69	34.7	34.7	71.9
	More than 5 acre	56	28.1	28.1	100.0
	Total	199	100.0	100.0	

- Less than 1 acre (37.2%): A major segment of farmers own small landholdings, which could limit their income potential.
- 1-5 Acres (34.7%): This group represents medium landholders who may have better financial conditions.
- More than 5 Acres (28.1%): Larger landowners are fewer, likely having higher financial stability.

Data Analysis Frequencies
Table no 5

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non Graduate	53	26.6	26.6	26.6
	Graduate	77	38.7	38.7	65.3
	Post Graduate	69	34.7	34.7	100.0
	Total	199	100.0	100.0	

- Non-Graduates (26.6%): A significant portion has lower education, possibly affecting their ability to manage finances effectively.
- Graduates (38.7%): This is the largest group, indicating some level of financial awareness.
- Postgraduates (34.7%): A strong percentage, indicating a good educational background among farmers.

Descriptive Statistics
Table no 6

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Financial knowledge Score	199	2.00	7.00	4.6030	1.42779
Financial Attitude score	199	.00	5.00	1.6935	.75979
Financial Behavior score	199	.00	9.00	4.1608	2.14718
Financial Literacy Score	199	4.00	19.00	10.1407	3.29375
Financial Wellbeing score	199	.00	4.00	2.0000	1.38535
Valid N (listwise)	199				

- Farmers have moderate financial knowledge (4.60 mean score), but their financial attitude (1.69 mean score) is low, suggesting they may not apply their knowledge effectively.
- Financial behavior (4.16 mean score) is inconsistent, showing variability in how farmers manage finances.
- The financial literacy score (10.14 mean score) indicates room for improvement.
- The financial well-being score (2.00 mean score) is low, suggesting financial distress among farmers.

Regression Analysis
Table no 7

Dependent Factor: Financial Well-Being
Independent Factor: Financial Literacy

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651[a]	.424	.421	1.05447
a. Predictors: (Constant), Financial Literacy Score				

Interpretation:
Financial literacy has a Significant Impact on farmers' Financial well-being. Almost 42 % of the farmer's Financial well-being is explained by the Financial Literacy he possesses.

Key Findings:

- R-Square (0.424): 42.4% of the variation in financial well-being is explained by financial literacy.
- Significance ($p < 0.05$): The relationship is statistically significant, confirming that higher financial literacy leads to improved financial well-being.
- Regression Coefficient (0.274): For every 1-unit increase in financial literacy, financial well-being improves by 0.274 units, which is a positive impact.

ANOVA TEST
Table no 8

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.956	1	160.956	144.758	.000[b]
	Residual	219.044	197	1.112		
	Total	380.000	198			
a. Dependent Variable: Financial Wellbeing score						
b. Predictors: (Constant), Financial Literacy Score						

F-value (144.758, $p = 0.000$): The model is highly significant, confirming that financial literacy strongly influences financial well-being.

ANOVA TEST
Table no 9

Interpretation:
Anova test shows a significance level of less than 0.05.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.776	.243		-3.199	.002
	Financial Literacy Score	.274	.023	.651	12.032	.000
a. Dependent Variable: FinancialWellBeing score						

Interpretation:
Financial literacy is considerably impacting the Financial well-being of the Farmer, sigma level less than 0.05 further strengthen this.

Regression Analysis

Table no 10

Multivariate Regression Analysis
Dependent Variable: Financial well-being
Independent Factor: Financial Knowledge, Financial Attitude, Financial Behavior.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.570[a]	.325	.314	1.14718
a. Predictors: (Constant), Financial Behaviour score, Financial knowledge Score, Financial Attitude score				
b. Dependent Variable: FinancialWellBeing score				

Interpretation: All the Independent Variable Collectively have a good impact on the dependent variable Financial Well-Being.

ANOVA Test

Table no 11

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.375	3	41.125	31.249	.000[b]
	Residual	256.625	195	1.316		
	Total	380.000	198			
a. Dependent Variable: FinancialWellBeing score						
b. Predictors: (Constant), Financial Behaviour score, Financial knowledge Score, Financial Attitude score						

Interpretation:
The above model is significant at 0.00 sigma value which is far more less than critical value of 0.05

Model coefficient
Table no 12

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.545	.313		-1.740	.083
	Financial knowledge Score	.175	.059	.180	2.942	.004
	Financial Attitude score	.537	.120	.295	4.486	.000
	Financial Behavior score	.200	.041	.309	4.870	.000
a. Dependent Variable: Financial Well-being score						

Interpretation
All the 3 independent variables Financial Knowledge, Financial Attitude, and financial behavior are significant as the p-value is less than 0.0.5 at a 95 % confidence level.

Further scope for study.
The research can be further by studying the mediating or moderating variable of the farmer's age, education, income, and other aspects that impact the financial well-being of the farmer**.**
Also, Farmers from different regions of India can be a topic of study.

Conclusions:
However, the condition of the Farmers in India especially in Maharashtra is very poor and they are financially weak which results in a huge number of farmers in Maharashtra committing Suicide.
The major reason for such an extreme step was mostly a lack of finance or debt burden in the majority of the cases as per the statistics provided by the Govt.

Most of farmers due to poor financial literacy make the wrong financial decisions which get them caught in big financial troubles. We found that many farmers don't have insurance, emergency funds or a good amount of savings and investments. These saving and investing habit is not inculcated in the farmer community at large, especially in Maharashtra. Farmers are still relying on Traditional investments and taking loans at a higher interest rate from the money lenders This ultimately puts them in financial trouble sooner or later.
Govt should take special initiatives to spread financial literacy programs among the farmer community in India.

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