

Understanding Farm Budgeting Practices In India: Socio-Demographic Influences, Perceptions, And Implications For Sustainable Agriculture

Dr.K. Dhatchayani¹, S. Soundarya², M. Athmika³, Dr.D. Vezhaventhan⁴, S. Anbarasu⁵

¹Assistant Professor, Department of Humanities and Social Sciences,
Saveetha School of Law, Saveetha Institute of Medical and Technical Sciences,
Chennai 600077, dhatchayanik.ssl@saveetha.com.

²Saveetha school of law Saveetha Institute of Medical and Technical Science (SIMATS)
Saveetha University, Chennai - 600077
aryasaran2626@gmail.com

³Saveetha School of Law, Saveetha Institute of Medical and Technical Sciences (SIMATS)
Mail ID: atmepooj@gmail.com

⁴Associate Professor & Head, Department of Humanities and Social Sciences,
Saveetha School of Law, Saveetha Institute of Medical and Technical Sciences,
Chennai 600077, vezhaventhand.ssl@saveetha.com

⁵Ph.D. Research Scholar, Saveetha School of Law,
Saveetha Institute of Medical and Technical Sciences (SIMATS),
Chennai 600077.

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Abstract

This study investigates farm budgeting in the Indian agricultural sector, examining its significance and exploring practices across demographics. Despite limitations in sample size and geographical scope, the findings reveal gaps in understanding among specific age groups, gender disparities, and varying perceptions based on location and occupation. The study emphasizes the need for targeted educational initiatives, especially for women farmers and older age groups. It recognizes gender-based disparities in agricultural credit access, highlighting the importance of equitable financial support. The correlations between occupation, place of residence, and perceptions offer valuable insights for policymakers to craft nuanced interventions, ensuring inclusivity and addressing location-specific challenges. Moving forward, comprehensive and context-specific strategies are crucial for enhancing farm budgeting awareness and fostering sustainable agricultural practices in India.

Key Words: Farm Budgeting, Demographic Disparities, Educational Initiatives, Agricultural Credit Access, Sustainable Practices.

INTRODUCTION

The Indian agricultural sector, historically crucial to the economy and employment (Blyn, 1968), has experienced a transformative budgeting process influenced by economic, social, and political factors. Under British rule, agricultural budgeting primarily served revenue maximization, neglecting Indian farmers and fostering poverty and famines (Gadgil & Guha, 2001). Post-independence, the Indian government acknowledged agriculture's role, incorporating provisions for irrigation, research, and credit in the budget (Sharma, 2007). The Green Revolution marked a turning point, boosting agricultural productivity with increased budgetary support

(Bhalla, 1979).

Recognizing challenges, the government introduced initiatives like the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme for direct income support (Ministry of Agriculture & Farmers' Welfare, 2023). PM-KISAN addresses fluctuating farm incomes by providing Rs. 6,000 per year to eligible farmers, enhancing financial security (Chandrasekhar, 2019). Despite challenges, PM-KISAN promotes agricultural productivity and stimulates the rural economy.

The allocation of resources to Indian agriculture involves a complex interplay of economic, social, political, and environmental factors (Chand, 2014). Macroeconomic conditions, sectoral performance, rural development, political agendas, and environmental concerns shape budgetary priorities (Narain, 2017). Water scarcity, climate change, and digital transformation are also influencing factors (Ghosh & Kumar, 2020).

The government's embrace of digital technologies enhances budget efficiency, transparency, and effectiveness (Chandrasekhar, 2019). Blockchain, e-governance platforms, and mobile apps streamline fund allocation and empower farmers with real-time information (Kumar et al., 2021). Water scarcity prompts budget allocations for irrigation infrastructure and water conservation (Ghosh & Kumar, 2020). Climate change concerns drive investments in climate-resilient crops and sustainable practices (Parthasarathy et al., 2019).

Comparing India's agricultural budget with nations like the U.S., China, and Brazil requires nuanced analysis (Gulati & Saini, 2018). The U.S. prioritizes farm subsidies and research, China focuses on modernization and rural development, while Brazil emphasizes infrastructure for sectoral growth (Bhalla, 2019). Currency fluctuations, economic disparities, and policy nuances must be considered for a meaningful comparison (Chandrasekhar, 2019).

Trends in Indian agricultural budgeting reflects a digital revolution, quenching water concerns, and beyond. Digital technologies enhance efficiency and transparency, while water-related allocations aim for sustainable productivity (Ghosh & Kumar, 2020). However, challenges remain, requiring continuous analysis to optimize budget impact (Mittal & Chowdhury, 2020).

Comparing agricultural budgets across countries involves navigating complexities influenced by economic, social, and policy factors. The U.S. focuses on substantial subsidies and research, China prioritizes modernization, and Brazil invests in infrastructure. Meaningful comparisons demand accounting for currency fluctuations, economic disparities, and policy nuances (D'Souza & Narayanan, 2020).

India's agricultural budgeting reflects a dynamic dance influenced by historical forces, contemporary challenges, and global trends. The evolution from a colonial tool to support for farmers demonstrates the sector's importance. Initiatives like PM-KISAN and trends in digital transformation and water management showcase efforts to address challenges and foster sustainable growth. Comparisons with other nations provide insights into diverse approaches. Understanding these complexities is vital for shaping effective agricultural policies that support India's farmers and ensure the sector's resilience, inclusivity, and environmental sustainability.

OBJECTIVES:

1. To analyze the relationship between socio-demographic factors and the understanding and adoption of farm budgeting practices among farmers in India.
2. To investigate the impact of farm budgeting on the perception of inflammation in the agricultural sector and explore potential solutions to mitigate negative perceptions.
3. To Compare and contrast the perspectives of rural, semi-urban, and urban residents on farm budgeting, animal husbandry, and agricultural credit, identifying key differences and potential interventions for promoting sustainable agricultural practices across all demographics.

REVIEW OF LITERATURE:

Cropping Systems and Sustainability:

Konapure Nagaraja Manoj et al. (2022) compared different fodder cropping systems for energy efficiency and carbon footprint. Bajra-Napier hybrid legume system excelled in energy production, while lucerne monocropping minimized carbon input. Gulab Singh Yadav et al. (2017) introduced no-till farming for rice fallow land in India. Maize, lentils, and field peas showed promising energy productivity and profitability. Ashok Kumar et al. (2022): Evaluated pearl millet-wheat cropping system in rainfed areas. High yields and returns were observed, with renewable energy contributing 23%.

Resource Management and Efficiency:

Kariyaiah Basavalingaiah et al. (2020) Compared direct-seeded and puddled transplanted rice systems in Karnataka. Direct seeding used less energy and had higher energy efficiency and profitability. P.C. Sahu and D.Nandi (2016) Assessed groundwater resources in Sundargarh district, India All blocks were classified as safe for development, with 13,810 HM used for irrigation. Arti Kumari et al. (2021) discussed water budgeting as a tool for community involvement in water management and conservation in India.

Economic and Policy Aspects:

Kumar, P. et al. (2005) Analyzed fish demand in India using the QAIDS model. All fish varieties had positive income elasticities, indicating growing demand with rising income. Sanjeev Kumar et al. (2019) studied an integrated crop-livestock-poultry model in India. Goat rearing required the most energy, while green fodder and field crops yielded better energy productivity. Siddhartha Mitra (2007) advocates for increased investment in agricultural infrastructure for inclusive growth in India. He suggested linking infrastructure development to land tenure security and viability. Shawn Cole (2009) examined political capture in India through electoral redistribution and budget cycles. He found increased agricultural credit in election years, but with no impact on output. Vidya Mahambare et al. (2022) demonstrated the link between state loan waivers and elections in India, suggesting manipulation of farmers for political gain.

Other Relevant Studies:

Pritpal Singh et al. (2021) investigated the impact of nutrient management on crop productivity, energy use, and carbon footprint. Balanced fertilization improves energy efficiency and yield. Renu Verma (2011) analyzed the impact of the 2011 Indian budget on agriculture and rural development, highlighting initiatives for sustainable practices. Mohammed Tahir Raoof Malik and Dr.Dil Pazir (2019) compared agricultural output to input subsidies in India, finding a significant rise in subsidies since the 1970s. S. Asokan et al. (2010) Observed variations in the daily activity budget of the White-breasted Kingfisher across seasons and years. U. Surendran et al. (2016) Assessed nutrient stocks and flows in Tamil Nadu districts using the NUTMON model. Negative balances for nitrogen and potassium were identified, requiring interventions like DSSIFER for sustainable management. Jayanthi, C. et al. (2000) Demonstrated successful water budgeting and improved economics in integrated lowland farming systems in Tamil Nadu. Vijayakumar, S. et al. (2019) Evaluated the energy budget of rice-wheat cropping systems influenced by potassium fertilization. Split application of recommended doses optimized energy use and maximized biological energy production.

METHODOLOGY

The study employed an empirical research approach, utilizing convenience sampling to gather data from 216 participants in Chennai. The data is collected through a questionnaire. Independent variables included age, gender, education, occupation, and residence, while dependent variables encompassed understanding of farm budgeting, its perceived importance in India, the perception of the Union budget's impact on agriculture, and access to agricultural credit. Data analysis utilized bar graphs and chi-square tests to examine these variables.

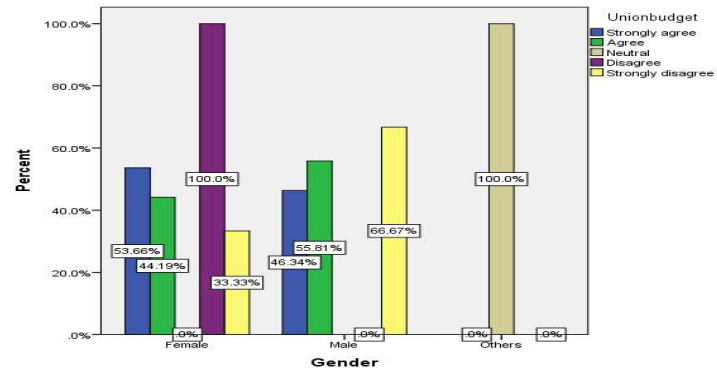
HYPOTHESIS

Ho: There is no association between the occupation of the respondents and importance of farm budgeting in India

H1: There is association between the occupation of the respondents and importance of farm budgeting in India

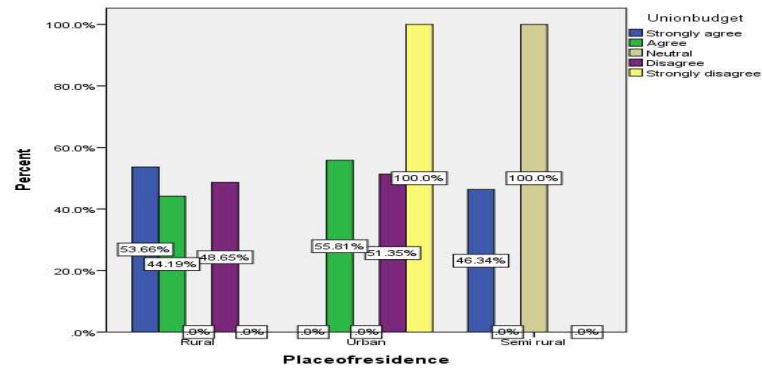
ANALYSIS

FIGURE 1



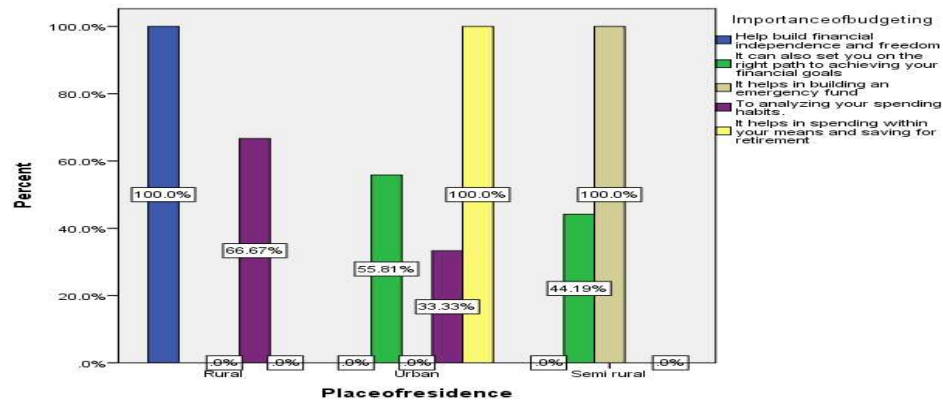
Legend: The above figure represents the gender and the inflammation in the agricultural sector due to farm budgeting in India.

FIGURE 2



Legend: The above figure represents the difference between the place of residence and the inflammation in the agricultural sector due to farm budgeting in India.

FIGURE 3



Legend: The above figure represents the difference between the place of residence and importance of farm budgeting.

Table-1

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	393.202 ^a	16	.000
Likelihood Ratio	404.218	16	.000
Linear-by-Linear Association	157.199	1	.000
N of Valid Cases	216		

a. 5 cells (20.0%) have expected count less than 5. The minimum expected count is 1.85.

Legend: The above figure represents the Chi-square test between occupation of the respondents and the opinion on the importance of farm budgeting in India.

Interpretation : The calculated p value is 0.000. Since P value < 0.05, null hypothesis is rejected at 5% Level of Significance . So There is an association between the occupation and importance of farm budgeting in India.

RESULTS

The analysis shows the percentage of people by gender and age who agree or strongly agree that the inflammation in the agricultural sector due to farm budgeting in India is a significant issue. The data indicates that a greater proportion of women (53.66%) compared to men (46.34%) express agreement or strong agreement with this statement. (Figure-1)

The percentage of respondents who agree that farm budgeting has caused inflammation in the agricultural sector varies depending on place of residence. In rural areas, 51.35% of respondents agree with this statement, while in semi-urban areas, the percentage is 48.65%. In urban areas, the percentage drops to 44.19%. This suggests that there is a correlation between place of residence and agreement that farm budgeting has caused inflammation in the agricultural sector. Respondents in rural areas are more likely to agree that farm budgeting has caused inflammation, while respondents in urban areas are less likely to agree with this statement. (Figure-2)

The analysis shows that the importance of farm budgeting varies depending on place of residence. In rural areas, 66.67% of respondents say that farm budgeting is important, while in semi-rural areas, the percentage is 55.81%. In urban areas, the percentage drops to 44.19%. This suggests that there is a correlation between place of residence and the importance of farm budgeting. Respondents in rural areas are more likely to believe that farm budgeting is important, while respondents in urban areas are less likely to agree with this statement. (Figure-3)

It shows the results of a chi-square test for independence between the occupation of the respondents and their opinion on the importance of farm budgeting in India. The chi-square test statistic is 157.199, which is highly significant ($p < 0.001$). This means that there is a strong association between the two variables. The crosstab table shows that the proportion of respondents who consider farm budgeting to be very important varies depending on their occupation. For example, 57% of self-employed farmers consider farm budgeting to be very important, compared to only 43% of government employees. (Table-1)

DISCUSSION

The finding that a greater proportion of women compared to men perceive farm budgeting as a significant contributor to agricultural sector issues highlights the need for further research to understand gender-specific concerns and address them effectively. (Figure-1)

The correlation between place of residence and perception of farm budgeting's impact on the agricultural sector, with rural residents expressing greater agreement with its negative effects compared to semi-urban and urban residents, suggests potential location-specific factors influencing farm budgeting implementation and outcomes. (Figure-2)

The higher percentage of rural residents recognizing the importance of farm budgeting compared to semi-urban and urban residents suggests location-specific factors influencing the understanding and value placed on farm budgeting practices. (Figure-3)

The highly significant chi-square test ($p < 0.000$) reveals a strong association between occupation and the perceived importance of farm budgeting, notably with self-employed farmers (57%) versus government employees (43%). Probable reasons for this distinction include the direct involvement of self-employed farmers in agriculture, linking their income to operational success, thus emphasizing the importance of efficient financial

management through farm budgeting. Financial literacy may contribute to recognizing the value of budgeting, with varied financial challenges and needs across occupations influencing viewpoints. Further analysis could explore diverse benefits of farm budgeting, barriers to adoption, the need for tailored educational resources, and integration with existing financial systems. Understanding these variations can inform targeted interventions, such as education programs and awareness campaigns, tailored to different occupations, promoting wider adoption of farm budgeting for enhanced financial management. **(Table-1)**

Suggestions

India's economy share of agriculture in the union budget declined 15 percent over a period of time due to high growth rate of industries and service sectors. However, in an Indian economy agriculture is the most important role because more than 75 percent of people live in rural areas. Hence, the Government needs to increase the share of the agriculture sector in the budget allocation.

CONCLUSION

This study delved into the intricate landscape of budgeting processes within India's agricultural sector, unraveling its historical roots, contemporary challenges, and global comparisons. The research illuminated the evolution from colonial revenue-centric approaches to post-independence initiatives like the PM-KISAN scheme, showcasing the government's acknowledgment of agriculture's pivotal role. The infusion of digital technologies, water management strategies, and climate-resilient practices emerged as dynamic facets shaping budgetary allocations, efficiency, and sustainability. The empirical investigation, employing a diverse sample from Chennai, shed light on critical dimensions of farm budgeting awareness and its perceived significance. The findings underscored disparities across demographic factors, emphasizing the need for targeted educational outreach. Notably, a gender gap in understanding farm budgeting was evident, warranting gender-sensitive agricultural policies. The study also highlighted the correlation between occupation, place of residence, and perspectives on farm budgeting, indicating the diverse lenses through which stakeholders perceive and engage with budgetary processes. As India's agricultural budgeting undergoes a digital revolution, tackles water challenges, and grapples with diverse perspectives, the study's insights offer a foundation for policymakers. Crafting effective and inclusive agricultural policies demands not only addressing immediate challenges but also fostering awareness, inclusivity, and adaptive strategies. Ultimately, this research contributes to the ongoing discourse on fortifying India's agricultural sector, ensuring its resilience, inclusivity, and alignment with global sustainability goals.

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