EPRA International Journal of Agriculture and Rural Economic Research (ARER)- Peer-Reviewed Journal
Volume: 14 | Issue: 1 | January 2026 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 – 7847

ASSOCIATION BETWEEN PM-KISAN AND RYTHU BHAROSA SCHEMES FUND UTILIZATION AND INDEBTEDNESS AMONG MARGINAL AND SMALL PADDY FARMERS

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Article DOI: https://doi.org/10.36713/epra25768
DOI No: 10.36713/epra25768

ABSTRACT----------
Background/Objective: *The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) and Rythu Bharosa schemes provide direct income support to farmers in India. This study examines the utilization patterns of scheme benefits among marginal and small paddy farmers in Guntur district, Andhra Pradesh, focusing on expenditure allocation across agricultural and non-agricultural purposes. Understanding how beneficiaries utilize these funds is essential for assessing scheme effectiveness and designing targeted interventions.*
Methods: *A cross-sectional survey was conducted among 640 farmers (320 marginal and 320 small farmers) selected through stratified random sampling from four mandals (Ponnur, Kakumanu, Duggirala, and Tenali) in Guntur district. Primary data were collected using a structured interview schedule covering socio-economic characteristics and utilization patterns across sixteen expenditure categories. Data analysis employed descriptive statistics including frequency distributions, percentages, and means. Chi-square tests were conducted to examine associations between farmer categories and utilization patterns.*
Results: *Results revealed that 84.40% of sample farmers reported being indebted, with average annual incomes between ₹1,50,000-₹2,50,000 (55.90%). The scheme amount was primarily utilized for household expenses (85.90% significant utilization), clearing small debts (79.20%), and agricultural wages (77.70%). Complete utilization was reported for land preparation (51.60%) and harvesting support (42.80%). However, utilization for irrigation (68.90% no utilization), pesticides (30.00% no utilization), and non-agricultural assets (86.10% no utilization) remained minimal. Significant variations existed across mandals in utilization patterns ($p<0.001$).*
Conclusions: *The PM-KISAN and Rythu Bharosa schemes serve dual purposes of supporting immediate agricultural needs and alleviating household financial distress among marginal and small farmers. While the schemes effectively support basic farming operations and debt management, limited utilization for productivity-enhancing inputs suggests the need for complementary extension services and financial literacy programs. Policy interventions should focus on increasing financial assistance amounts, providing targeted guidance on optimal fund utilization, and integrating the schemes with agricultural extension services to maximize productivity impacts.*
KEYWORDS: *PM-KISAN, Rythu Bharosa, utilization pattern, marginal farmers, small farmers, direct benefit transfer----------*

INTRODUCTION AND BACKGROUND

Agriculture remains the backbone of India's economy despite structural transformations over the decades. The sector contributes approximately 18% to the national GDP while employing nearly 45% of the workforce, making it crucial for rural livelihoods and food security (Economic Survey 2023-24). However, Indian agriculture faces multiple challenges including fragmented landholdings, rising input costs, climate variability, inadequate credit access, and market price fluctuations. These challenges are particularly severe for marginal and small farmers who constitute over 86% of the farming community but face chronic indebtedness, low productivity, and vulnerability to economic shocks. The agrarian crisis in India has intensified since the late 1990s, manifesting through declining agricultural growth rates, increasing farmer indebtedness, and distress migration. Small and marginal farmers with landholdings below two hectares struggle to achieve economies of scale and often lack access to institutional credit, forcing them to depend on informal lenders at exorbitant interest rates. The declining profitability of agriculture combined with rising production costs has created a situation where farming becomes economically unviable for many small landholders.

Recognizing these challenges, the Government of India launched the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme in February 2019 as a direct income support initiative. The scheme provides ₹6,000 annually in three

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equal installments of ₹2,000 to all landholding farmer families regardless of landholding size. This universal approach marked a departure from earlier targeted schemes, aiming to supplement farmers' income for purchasing agricultural inputs and meeting household needs. The scheme utilizes Direct Benefit Transfer (DBT) mechanisms to ensure transparent and timely payments directly into beneficiaries' bank accounts. Complementing the central scheme, the Government of Andhra Pradesh introduced the Rythu Bharosa scheme (now renamed Annadata Sukhibhava) in June 2019, providing an additional ₹7,500 annually. Together, eligible farmers in Andhra Pradesh receive ₹13,500 per year through these combined schemes. The Rythu Bharosa scheme specifically targets supporting farmers during critical agricultural seasons, ensuring timely access to inputs for enhanced productivity.

Andhra Pradesh is one of India's major agricultural states, with paddy cultivation occupying the largest cropped area. Guntur district holds particular significance as a major rice-producing region where small and marginal farmers predominate. These farmers face unique challenges including limited financial resources, restricted credit access, and competing demands for income allocation between immediate consumption needs and long-term agricultural investments. Understanding how these vulnerable farming households utilize scheme benefits becomes crucial for assessing effectiveness and designing future policy interventions. Despite the widespread implementation of PM-KISAN and Rythu Bharosa schemes, limited empirical evidence exists regarding how marginal and small farmers actually utilize these funds. The schemes assume that direct cash transfers will enable farmers to invest in productivity-enhancing inputs and reduce their dependency on informal credit sources. However, the reality may be more complex as these farmers face multiple competing financial demands including household consumption, debt repayment, medical expenses, and social obligations alongside agricultural requirements.

The fundamental problem lies in the lack of comprehensive understanding about whether the scheme benefits are being channelized toward intended agricultural purposes or diverted to non-agricultural expenditures. Given the financial constraints faced by marginal and small farmers, they may prioritize immediate survival needs over long-term productivity investments. This creates uncertainty about whether the schemes effectively contribute to agricultural development or merely provide temporary relief from financial distress. Furthermore, the adequacy of the financial assistance in meeting diverse farmer needs remains questionable. The combined annual amount of ₹13,500 must address multiple expenditure categories including input procurement, labor payments, equipment rental, and household needs. Understanding actual utilization patterns is essential for evaluating whether the scheme amount sufficiently supports both agricultural operations and household welfare, or requires enhancement to achieve intended objectives effectively.

Need for the Study

This study addresses a critical knowledge gap regarding the practical implications of direct income support schemes for India's vulnerable farming population. First, empirical evidence on how small and marginal farmers allocate limited financial resources across competing demands provides insights into their financial priorities and decision-making processes. Such understanding enables policymakers to assess whether current support mechanisms align with actual farmer needs and constraints. Second, identifying specific expenditure categories where scheme funds are utilized helps evaluate the schemes' effectiveness in achieving their stated objectives of supporting agricultural productivity and farmer welfare. If utilization predominantly focuses on consumption or debt repayment rather than productive investments, it signals the need for complementary interventions such as financial literacy programs, agricultural extension services, or enhanced credit access. Third, examining utilization patterns specifically among marginal and small farmers in a major paddy-producing region like Guntur district provides regionally contextualized insights applicable to similar agricultural zones across India. The findings can inform targeted policy modifications to enhance scheme effectiveness for the most vulnerable farming segments who require maximum support but face the greatest challenges in optimal resource utilization for sustainable agricultural development.

Review of Literature and Research Gap

Several studies have examined various aspects of farmer welfare schemes in India. Kavitha et al. (2021) found that PM-KISAN beneficiaries in Karnataka experienced increased input usage and higher yields, demonstrating the scheme's positive influence on technical efficiency and agricultural productivity. Similarly, Jagadeshwaran et al. (2022) observed that PM-KISAN assistance contributed to reduced cultivation costs and increased adoption of new technologies among paddy farmers in Tamil Nadu. Research on utilization patterns reveals mixed findings. Bhadwal and Kumar (2022) discovered that Himachal Pradesh farmers used PM-KISAN funds for agricultural purposes during peak seasons but directed them toward consumption during off-seasons, highlighting seasonal variations. Akhtar (2022) reported that Uttar Pradesh beneficiaries allocated 63.99% of funds to agricultural purposes, with remaining

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amounts spent on non-agricultural needs including health expenses. Gopi et al. (2022) found that beneficiaries primarily utilized funds for productive expenditures, though variations existed across social categories. Studies on Rythu Bharosa scheme implementation in Andhra Pradesh remain limited. Babu et al. (2023) examined Rythu Bharosa Kendras' service delivery, identifying gaps in agricultural input availability despite positive farmer perceptions. Haritha et al. (2023) reported moderate awareness levels about RBK services but highlighted challenges including payment delays and inadequate infrastructure. While existing literature examines scheme awareness, satisfaction levels, and broad expenditure categories, detailed micro-level analysis of utilization patterns across specific agricultural and non-agricultural purposes among marginal and small farmers remains scarce. Most studies focus on single schemes rather than examining combined benefits. Additionally, regionally specific studies in major paddy-producing areas like Guntur district are limited, creating gaps in understanding contextual utilization patterns influenced by local agricultural practices and socio-economic conditions.

Objective

To find the Association between PM-KISAN and Rythu Bharosa Schemes Fund Utilization and Indebtedness among Marginal and Small Paddy farmers in Guntur district of Andhra Pradesh

Methodology and Tools

The study was conducted in Guntur district, Andhra Pradesh, selected for its prominence in paddy cultivation. Four mandals—Ponnur, Kakumanu, Duggirala, and Tenali—were purposively chosen based on having the highest areas under paddy cultivation in the district. A stratified random sampling technique was employed. From each of the four mandals, four villages were randomly selected, yielding sixteen villages. Within each village, twenty marginal farmers (landholding below 1 hectare) and twenty small farmers (landholding 1-2 hectares) who were PM-KISAN and Rythu Bharosa beneficiaries were randomly selected. This resulted in a total sample size of 640 respondents (320 marginal farmers and 320 small farmers). Primary data were collected during September-November 2024 using a pre-tested structured interview schedule. The schedule captured socio-economic characteristics (age, gender, education, family size, occupation, income, expenditure, indebtedness) and detailed utilization patterns across sixteen categories: land preparation, seed purchase, fertilizers, pesticides, irrigation, farm equipment rental, harvesting support, agricultural wages, livestock feed, household expenses, medical expenses, debt clearance, non-agricultural assets, social ceremonies, food expenditure, and emergency expenses. Data were analyzed using descriptive statistics including frequencies, percentages, and means. Cross-tabulations examined utilization patterns across farmer categories and mandals. Chi-square tests assessed statistical significance of associations between variables. All analyses were conducted using SPSS software version 25.0, with statistical significance determined at $p<0.05$ level.

RESULTS AND DISCUSSION

Table 1: Socio-Economic Profile of Sample Respondents

Characteristic	Category	Number	Percentage
Age (years)	Below 30	62	9.7
	30-40	241	37.7
	40-50	226	35.3
	Above 50	111	17.3
Gender	Male	571	89.2
	Female	69	10.8
Education	Illiterate	201	31.4
	Primary	209	32.7
	Upper Primary	104	16.3
	SSC and above	126	19.7
Family Type	Joint	52	8.1
	Nuclear	588	91.9
Occupation	Agriculture only	244	38.1
	Agriculture + Labour	396	61.9
Annual Income (₹)	< 1,50,000	160	25.0
	1,50,000-2,50,000	358	55.9
	> 2,50,000	122	19.1
Indebtedness	Indebted	540	84.4
	Not Indebted	100	15.6

Source: Primary Data

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Socio-Economic Profile

Observation: The sample comprises predominantly middle-aged (73.0% between 30-50 years), male farmers (89.2%) with limited formal education (64.1% illiterate or primary education only). Most respondents belong to nuclear families (91.9%) and combine agriculture with agricultural labor (61.9%). The majority earn between ₹1,50,000-₹2,50,000 annually (55.9%), and significantly, 84.4% report being indebted.

Interpretation: The socio-economic profile reveals vulnerable farming households characterized by limited education, modest incomes, and high indebtedness levels. The predominance of nuclear family structures indicates declining joint family systems traditionally providing mutual support during agricultural distress. The fact that 61.9% respondents supplement farming with wage labor suggests that agricultural income alone proves insufficient for household sustenance. Education levels remain considerably low, potentially limiting awareness about modern agricultural practices and optimal resource utilization strategies. The gender composition reflects patriarchal landholding patterns where women, despite contributing significantly to agricultural labor, rarely hold formal land titles making them ineligible for land-based income support schemes.

Findings: High indebtedness (84.4%) indicates chronic financial stress among marginal and small farmers, making direct cash transfers critically important for debt management and avoiding dependency on exploitative informal credit sources. The income distribution shows most farmers (80.9%) earning below ₹2,50,000 annually, suggesting limited financial buffers for unexpected expenses or investments in productivity-enhancing technologies. The combination of low education levels and multiple occupational engagements may constrain farmers' ability to make informed decisions about optimal fund utilization for maximizing agricultural productivity and long-term welfare improvements.

Discussion: These findings align with broader national patterns where small and marginal farmers face structural disadvantages including limited education, fragmented landholdings, and inadequate income. The high indebtedness confirms findings from Singh et al. (2017) who documented similar patterns in Punjab. The gender skew in scheme beneficiaries reflects systemic issues in women's land ownership despite their substantial contributions to agricultural production. The dominance of nuclear families suggests changing social structures potentially reducing traditional support networks during agricultural distress periods.

Table 2: Utilization of Scheme Amount for Agricultural Purposes

Purpose	Completely (%)	Significantly (%)	Moderately (%)	Slightly (%)	Not at all (%)	Chi-square	p-value
Land Preparation	51.6	17.7	22.7	8.1	-	103.68	<0.001
Seed Purchase	24.8	49.8	12.2	13.1	-	113.34	<0.001
Fertilizers	9.8	3.9	33.9	36.9	15.5	176.52	<0.001
Pesticides	6.4	12.8	13.8	37.0	30.0	331.47	<0.001
Irrigation	-	-	-	31.1	68.9	-	-
Equipment Rental	-	8.1	48.9	43.0	-	82.64	<0.001
Harvesting Support	42.8	25.3	-	31.9	-	182.73	<0.001
Agricultural Wages	-	77.7	4.1	0.3	18.0	24.68	0.003
Livestock Feed	-	8.6	13.8	77.7	-	64.36	<0.001

Source: Primary Data

Utilization of Scheme Amount for Agricultural Purposes:

Observation: Agricultural utilization shows considerable variation across purposes. While 51.6% respondents completely utilized funds for land preparation and 42.8% for harvesting support, utilization for fertilizers (9.8% complete) and pesticides (6.4% complete) remained minimal. Irrigation recorded the lowest utilization with 68.9% reporting no use. Agricultural wages received significant utilization (77.7%), whereas livestock feed showed predominantly slight utilization (77.7%).

Interpretation: The utilization pattern reveals that scheme benefits primarily support basic land preparation and harvesting operations rather than productivity-enhancing inputs like fertilizers and pesticides. The high utilization for agricultural wages (77.7% significant utilization) reflects the labor-intensive nature of paddy cultivation and farmers' immediate obligations to wage workers. The minimal irrigation utilization (68.9% no use) likely reflects adequate canal irrigation availability in Guntur district, consistent with secondary data showing 75.90% irrigation through canals. The low utilization for fertilizers and pesticides despite their importance for productivity suggests either the

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funds' inadequacy for purchasing these expensive inputs or farmers prioritizing other immediate needs. Equipment rental shows balanced moderate (48.9%) and slight (43.0%) utilization, indicating that farmers rent machinery when necessary but the scheme amount covers only partial costs.

Findings: Significant mandal-wise variations ($p<0.001$) in utilization patterns indicate contextual factors including local agricultural practices, input availability, and extension service quality influence how farmers allocate scheme benefits. The complete utilization for land preparation (51.6%) suggests farmers prioritize ensuring adequate field preparation for cultivation. However, the inadequate utilization for fertilizers (only 13.7% complete or significant utilization) and pesticides (only 19.2% complete or significant utilization) raises concerns about whether farmers can afford optimal input application rates necessary for achieving potential yields. The negligible irrigation utilization confirms that farmers in this canal-irrigated region do not face significant irrigation costs, contrasting with groundwater-dependent areas where irrigation expenses consume substantial resources.

Discussion: These findings partially align with Akhtar (2022) who reported 63.99% agricultural utilization but differ in specific category allocation. The high agricultural wage utilization reflects the structural dependence on hired labor in paddy cultivation where mechanization remains limited. The low fertilizer and pesticide utilization despite their productivity importance suggests that the scheme amount, though beneficial, remains insufficient for comprehensive input procurement. Farmers may supplement scheme benefits with credit or prioritize cheaper alternatives. The mandal-wise variations highlight the importance of localized agricultural contexts in determining utilization patterns.

Table 3: Utilization of Scheme Amount for Non-Agricultural Purposes

Purpose	Significantly (%)	Moderately (%)	Slightly (%)	Not at all (%)	Chi-square	p-value
Household Expenses	85.9	5.5	8.6	-	60.67	<0.001
Medical Expenses	6.4	12.5	25.8	50.3	232.43	<0.001
Clearing Debts	79.2	12.0	3.8	5.0	46.52	<0.001
Non-agricultural Assets	-	2.5	8.9	86.1	58.22	<0.001
Social Ceremonies	-	-	5.9	94.1	-	-
Food Expenditure	23.1	54.1	2.3	20.5	62.24	<0.001
Emergency Expenses	55.2	16.4	28.4	-	29.81	<0.001

Source: Primary Data

Observation: Non-agricultural utilization demonstrates that household expenses (85.9% significant utilization) and debt clearance (79.2% significant utilization) dominate fund allocation. Food expenditure shows primarily moderate utilization (54.1%), while emergency expenses receive significant utilization (55.2%). Conversely, utilization for non-agricultural assets (86.1% no utilization) and social ceremonies (94.1% no utilization) remains minimal. Medical expenses show mixed patterns with 50.3% reporting no utilization.

Interpretation: The overwhelming utilization for household expenses (85.9%) and debt repayment (79.2%) highlights the financial vulnerability of marginal and small farmers who struggle to meet basic consumption needs and face chronic indebtedness. These findings suggest that rather than representing discretionary agricultural investments, scheme benefits function as crucial income support preventing further impoverishment. The significant allocation to emergency expenses (55.2%) indicates farmers utilize these regular transfers as financial buffers against unexpected shocks including crop failures, health emergencies, or price fluctuations. The moderate food expenditure utilization (54.1%) reflects that while scheme benefits supplement food security, they do not completely meet nutritional requirements, necessitating additional income sources. The minimal utilization for social ceremonies (94.1% no use) suggests farmers exercise restraint in allocating scheme benefits toward non-essential expenditures. The mixed medical expense utilization (50.3% no use) may indicate either good health status among respondents or deferred healthcare due to inadequate resources.

Findings: The dominance of household expenses and debt repayment in fund utilization demonstrates that marginal and small farmers operate under severe financial constraints where immediate survival needs supersede long-term agricultural investments. The scheme effectively prevents further indebtedness by enabling debt servicing and meeting consumption needs, though this limits resources available for productivity-enhancing agricultural investments. The minimal allocation toward non-agricultural assets and social functions indicates farmers prioritize essential needs appropriately. However, the significant utilization for emergency expenses (55.2%) suggests inadequate savings and

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vulnerability to shocks, making regular cash transfers valuable for maintaining minimum consumption levels during crises.

Discussion: These findings resonate with Bhadwal and Kumar (2022) who documented seasonal variations in agricultural versus consumption-oriented utilization. The high debt repayment utilization confirms widespread farmer indebtedness documented by Singh et al. (2017) and Kaur (2021). The scheme's role in supporting household consumption rather than purely agricultural investments suggests it functions more as poverty alleviation than agricultural development intervention. This dual role may be appropriate given the vulnerable circumstances of marginal and small farmers who require immediate income support alongside long-term productivity enhancement.

Table 4: Mandal-wise Variations in Agricultural Input Utilization

Mandal	Fertilizer Utilization (Complete/Significant %)	Pesticide Utilization (Complete/Significant %)	Chi-square	p-value
Ponnur	0.0	0.0	176.52	<0.001
Kakumanu	15.0	26.2		
Duggirala	16.3	14.4		
Tenali	23.7	35.6		
District Average	**13.7**	**19.2**		

Source: Primary Data

Mandal-wise Variations in Agricultural Input Utilization

Observation: Mandal-level analysis reveals substantial geographic variations in input utilization patterns. Ponnur shows zero complete or significant utilization for both fertilizers and pesticides, whereas Tenali records the highest levels at 23.7% for fertilizers and 35.6% for pesticides. Kakumanu and Duggirala fall between these extremes, showing intermediate utilization levels for both inputs.

Interpretation: The mandal-wise variations likely reflect differences in agricultural extension services, input availability through local Rythu Bharosa Kendras, farmer organization effectiveness, and awareness levels about optimal input application. Ponnur's zero complete/significant utilization for fertilizers and pesticides suggests either superior soil fertility reducing input requirements, alternative input sources, or potentially inadequate awareness about yield-responsive input management. Tenali's higher utilization indicates either greater input needs, better extension support facilitating optimal input use, or farmer groups enabling collective input purchases at better prices. The overall low district average (13.7% for fertilizers, 19.2% for pesticides) confirms that scheme funds inadequately cover input costs, requiring farmers to access credit or reduce application rates below recommended levels.

Findings: Geographic variations highlight the importance of localized factors including extension service quality, input supply chains, soil fertility levels, and pest pressure in determining utilization patterns. The Ponnur-Tenali contrast spanning zero to 35.6% for pesticides demonstrates that identical cash transfers yield different outcomes based on contextual agricultural conditions and institutional support systems. These variations suggest that uniform cash transfers without complementary extension services and input supply infrastructure may inadequately address location-specific agricultural needs. The consistently low utilization across all mandals confirms systemic issues including inadequate fund amounts relative to input costs rather than merely local implementation problems.

Discussion: These findings emphasize the need for integrating direct cash transfers with strengthened agricultural extension services and input supply systems. The mandal-wise variations suggest that cash transfers alone prove insufficient; effective utilization requires complementary investments in farmer training, input availability, and technical guidance. The geographic disparities also indicate potential inequities in scheme benefits based on location, suggesting the need for additional support mechanisms in areas with weaker agricultural institutions.

Table 5: Association Between Indebtedness and Fund Utilization

Debt Status	Debt Clearance (Significant %)	Household Expenses (Significant %)	Agricultural Inputs (Complete %)	Chi-square	p-value
Indebted (n=540)	87.4	89.8	28.5	156.34	<0.001
Not Indebted (n=100)	32.0	64.0	57.0		

Source: Primary Data

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Association Between Indebtedness and Fund Utilization

Observation: Clear associations emerge between indebtedness status and utilization patterns. Among indebted farmers (84.4% of sample), 87.4% utilize funds significantly for debt clearance compared to only 32.0% among non-indebted farmers. Similarly, household expense utilization differs substantially: 89.8% for indebted versus 64.0% for non-indebted farmers. Conversely, complete agricultural input utilization is higher among non-indebted farmers (57.0%) compared to indebted farmers (28.5%).

Interpretation: The stark differences in utilization patterns between indebted and non-indebted farmers reveal how debt burden constrains agricultural investment capacity. Indebted farmers prioritize debt servicing (87.4%) to avoid penalties, interest accumulation, and potential asset seizures by creditors. The higher household expense utilization among indebted farmers (89.8% versus 64.0%) suggests that debt-burdened households face even more severe consumption constraints, necessitating scheme fund allocation toward basic needs. The lower agricultural input utilization among indebted farmers (28.5% versus 57.0%) indicates that debt burden forces sub-optimal input application, potentially perpetuating low productivity cycles. Non-indebted farmers, freed from debt obligations, can allocate larger proportions toward productivity-enhancing agricultural investments, suggesting that debt relief would enable more optimal fund utilization for agricultural purposes.

Findings: The strong association between indebtedness and utilization patterns ($p<0.001$) confirms that debt burden represents a critical constraint determining whether farmers can utilize scheme benefits for productivity enhancement versus debt servicing and survival consumption. This creates a vicious cycle where indebted farmers must prioritize debt repayment over agricultural investments, limiting productivity gains and perpetuating their vulnerable status. The scheme's role in enabling debt servicing prevents further indebtedness but does not fundamentally resolve the underlying debt problem or enable productivity-enhancing investments. Breaking this cycle requires comprehensive approaches combining income support with debt relief, affordable credit access, and agricultural extension services enabling productivity improvements.

Discussion: These findings align with extensive literature documenting the debt trap facing Indian farmers (Rajakumar et al., 2019; Kaur, 2021). The association between indebtedness and utilization patterns demonstrates that cash transfers alone cannot resolve fundamental structural issues facing small and marginal farmers. Effective poverty alleviation requires integrated approaches addressing debt burdens, credit access, agricultural productivity, and market linkages simultaneously. The scheme's current role in preventing further indebtedness remains valuable but insufficient for enabling agricultural transformation among debt-burdened farmers.

Overall Discussion

The comprehensive analysis of utilization patterns reveals that PM-KISAN and Rythu Bharosa schemes serve crucial welfare functions for marginal and small farmers while generating modest agricultural productivity impacts. The schemes effectively support basic farming operations including land preparation and harvesting, enable debt servicing preventing further indebtedness, meet essential household consumption needs, and provide financial buffers against emergencies. However, the limited utilization for productivity-enhancing inputs like fertilizers and pesticides suggests that the financial assistance, though beneficial, remains inadequate for comprehensive agricultural development. The dominance of household expenses and debt repayment in fund allocation reflects the severe financial vulnerability characterizing small and marginal farmers. These farmers operate under chronic income deficits where regular cash transfers prevent further impoverishment rather than enabling transformational agricultural investments. This reality necessitates viewing the schemes primarily as poverty alleviation measures with agricultural support as a secondary benefit, rather than purely agricultural development interventions. The significant mandal-wise variations in utilization patterns highlight that identical cash transfers yield different outcomes based on local agricultural contexts, extension service quality, and input supply infrastructure. This emphasizes the need for complementary investments in agricultural institutions alongside cash transfers for maximizing productivity impacts. The strong association between indebtedness and utilization patterns confirms that debt burden represents a critical constraint, with indebted farmers forced to prioritize debt servicing over agricultural investments, perpetuating low-productivity cycles.

Summary

This study examined utilization patterns of PM-KISAN and Rythu Bharosa scheme benefits among 640 marginal and small paddy farmers in Guntur district through primary survey methods. The socio-economic profile revealed vulnerable farming households characterized by limited education (64.1% illiterate or primary education), modest incomes (55.9% earning ₹1,50,000-2,50,000), and chronic indebtedness (84.4%). Agricultural utilization analysis

showed that while basic operations like land preparation (51.6% complete utilization) and harvesting support (42.8%) received substantial fund allocation, productivity-enhancing inputs including fertilizers (13.7% complete/significant) and pesticides (19.2%) received minimal utilization. Irrigation showed negligible use (68.9% no utilization) reflecting adequate canal irrigation availability. Non-agricultural utilization patterns demonstrated that household expenses (85.9% significant utilization) and debt clearance (79.2%) dominated fund allocation, highlighting the severe financial constraints facing small and marginal farmers. Food expenditure (54.1% moderate utilization) and emergency expenses (55.2% significant) also received substantial allocations, whereas non-agricultural assets (86.1% no utilization) and social ceremonies (94.1% no utilization) remained minimal. The indebtedness analysis revealed that debt burden significantly constrains agricultural investment capacity, with indebted farmers showing higher debt repayment (87.4%) and household expense utilization (89.8%) but lower agricultural input application (28.5%) compared to non-indebted farmers.

Conclusion

The study concludes that PM-KISAN and Rythu Bharosa schemes fulfill essential dual roles of supporting immediate agricultural operations and alleviating household financial distress among marginal and small farmers in Guntur district. The schemes effectively enable debt servicing, meet basic consumption needs, and support fundamental farming activities. However, the limited utilization for productivity-enhancing inputs suggests that current financial assistance levels remain inadequate for comprehensive agricultural development. The strong association between indebtedness and utilization patterns confirms that debt burden constrains optimal fund allocation toward productivity enhancement. The significant geographic variations in utilization highlight the importance of complementary agricultural institutions including extension services and input supply systems for maximizing scheme benefits. While the schemes provide crucial support preventing further impoverishment, fundamental transformation of small and marginal farmer livelihoods requires integrated approaches combining enhanced income support, debt relief mechanisms, affordable credit access, and strengthened agricultural extension services.

Suggestions and Policy Implications

Based on study findings, several policy modifications would enhance scheme effectiveness. First, the annual financial assistance should be increased from the current ₹13,500 to at least ₹20,000 considering inflation and rising input costs, enabling adequate resource allocation for both consumption and productivity investments. Second, complementary extension services should be strengthened to guide farmers in optimal fund utilization for agricultural productivity enhancement, potentially through integration with Rythu Bharosa Kendras providing both financial and technical support. Third, targeted debt relief programs should be implemented for chronically indebted farmers, enabling them to escape debt traps and allocate resources toward productivity investments rather than merely servicing debts. Fourth, financial literacy programs should be conducted to educate farmers about balancing immediate consumption needs with long-term agricultural investments, potentially through farmer field schools or self-help group platforms. Fifth, input subsidy programs should be revitalized and coordinated with cash transfer schemes to ensure farmers can afford adequate fertilizer and pesticide applications at critical crop stages. These integrated interventions combining enhanced financial support, technical guidance, debt relief, and complementary input subsidies would maximize the transformational potential of direct income support schemes for India's vulnerable small and marginal farming population.

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