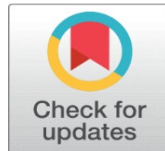


EXAMINING THE RELATIONSHIP BETWEEN FARM INVESTMENT SUPPORT AND AGRICULTURAL AREA, PRODUCTION AND PRODUCTIVITY IN TELANGANA, INDIA

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ABSTRACT

This research investigates the correlation between farm investment assistance provided by Rythu Bandhu and essential agricultural performance metrics, specifically the area cultivated, production levels, productivity, and agriculture's economic contribution to the state. The analysis utilizes secondary data obtained from the Directorate of Economics and Statistics, Government of Telangana, the Ministry of Agriculture, and the Socio-Economic Outlook of Telangana, encompassing the period from 2018–19 to 2023–24.

The study utilizes descriptive statistics and Karl Pearson's correlation analysis to examine the strength and direction of associations among variables such as the number of scheme beneficiaries, total farm investment under Rythu Bandhu, total area covered, and economic indicators, including the contribution of agriculture to GSDP and per capita income. The results show a strong and statistically significant positive relationship between the number of beneficiaries and both the total financial support ($r = 0.938$, $p = 0.006$) and the area covered by the program ($r = 0.885$, $p = 0.019$). This means that more outreach and investment are closely linked. Additionally, the number of beneficiaries is significantly correlated with agriculture's contribution to GSDP ($r = 0.817$, $p = 0.047$), indicating a favorable macroeconomic effect of the scheme.

But the links between Rythu Bandhu variables and bigger indicators like the share of agriculture in Gross State Value Added (GSVA) and per capita income are not statistically significant, even though, they are positive. This shows that there may be a gap between growth in specific sectors and their relative contribution to the overall state economy. This could be because non-agricultural sectors are growing faster. In conclusion, the study offers empirical evidence that Rythu Bandhu has favorably impacted agricultural investment and economic output, especially regarding the enhancement of coverage and the augmentation of farm-level support. Its broader effects on structural economic indicators, on the other hand, are still limited. This suggests that we need to use integrated strategies that combine direct support with long-term infrastructure, extension, and market linkages.

Keywords: Farm, Agricultural, Production and Productivity, Telangana

1. INTRODUCTION

The Indian economy still heavily depends on agriculture, which supports rural livelihoods and jobs in addition to ensuring food security. Nearly 60% of India's rural population depends on agriculture, despite its decreasing share of the country's GDP. Public policy interventions have become more crucial to ensuring the sector's sustainability and productivity as it struggles with climate variability, rising input costs, and fragmented landholdings. The transition from price-based support mechanisms to direct income and investment support for farmers has been one of the most prominent recent trends (Zafar et al., 2023; Mishra et al., 2024). In this regard, the 2014 separation of Andhra Pradesh into the state of Telangana has made it a leader in the development of innovative agricultural policies. With more than 55% of the population working in agriculture or related fields, the state has a robust agricultural foundation. Although the majority of Telangana's agriculture is rain-fed, initiatives like Mission Kakatiya and the Kaleshwaram Lift Irrigation

Scheme are increasing the state's irrigation coverage. However, the sector's performance in terms of area under cultivation, production levels, and productivity per hectare is still impacted by variations in monsoons, landholding patterns, and input accessibility (Basantaray et al., 2024).

A major policy change was made in May 2018 when the Telangana government introduced the Rythu Bandhu Scheme (RBS) to address these problems and improve agricultural results. In order to alleviate the financial burden of input costs such as labor, seeds, fertilizer, and pesticides, the program offers farmers direct investment support at a rate of ₹5,000 per acre per season. Rythu Bandhu is intended as a preventive and enabling mechanism to encourage farmers to become self-sufficient, in contrast to loan waiver schemes that provide short-term relief (Amitha et al., 2021; Padmavatahi, 2024). The first of its kind in India, the Rythu Bandhu Scheme has influenced other models, including the PM-KISAN scheme of the central government. Regardless of income, crop type, or land size, it is a universal transfer to all farmers who own land. Although it has received a lot of praise for its broad reach and prompt disbursement, it has come under fire for leaving out tenant farmers and neglecting to take into consideration variations in farm size and input requirements (Sneha et al., 2021; Kumar, 2022). Opponents also highlight the financial strain that these programs place on states, particularly when they have to strike a balance between short-term subsidies and long-term infrastructure investments (Zafar et al., 2023; IJSE, 2022).

Determining whether such investment support results in an increase in agricultural area, an improvement in overall output, and—above all—an increase in productivity per hectare is a critical component of assessing its efficacy. The fundamental premise is that lowering initial financial strain will encourage farmers to expand their land holdings, use high-quality inputs, and improve farming techniques, all of which will increase yields (Frontiers, 2023; Mishra et al., 2024). But according to some research, subsidies may result in inefficiencies or environmental damage if they are not in line with sustainability objectives, even though they may increase profitability in the short run (Mishra et al., 2024).

According to Telangana government data, Rythu Bandhu has helped over 65 lakh farmers since its launch, with over ₹65,000 crores distributed by 2025 (Padmavatahi, 2024). Beneficiary farmers saw increases in their productivity, purchasing power for inputs, and reliance on informal credit, according to a district-level study conducted in Warangal by Amitha et al. (2021). The efficacy of the program, however, varies according to crop type, land size, and the availability of local infrastructure, according to data from other areas (Kumar, 2022). Studying the varying effects of farm support programs is made easier by Telangana's agro-ecological diversity, which ranges from the arid Deccan plateau to the more irrigated northern districts. Additionally, it is feasible to assess scheme coverage and targeting accuracy across subgroups (such as small vs. large farmers) using strong digitized land records through the Dharani portal and Aadhaar-linked farmer databases (Padmavatahi, 2024).

Therefore, the purpose of this study is to investigate the relationship between farm investment support and three important agricultural indicators: productivity, total production, and area under cultivation. The study intends to produce empirical insights into whether direct investment transfers like Rythu Bandhu result in quantifiable improvements in agricultural outcomes by examining trends across Telangana districts.

Additionally, as some subsidy studies have suggested, the study will investigate whether the program is disproportionately favoring large landholders or fairly benefiting marginal and smallholder farmers (Frontiers, 2023; Zafar et al., 2023). Complementary services, like markets, irrigation, and extension services, will also be taken into account because they are frequently essential in converting financial assistance into long-term increases in productivity (IJSE, 2022). To sum up, this study intends to add to the expanding corpus of research assessing the efficiency of direct benefit transfer systems in agriculture. In a structurally diverse state like Telangana, it tackles a crucial policy question: Can unrestricted investment support spark long-term increases in agricultural productivity and incomes?

2. LITERATURE REVIEW

The impact of public investments, direct income support, and farm subsidies on agricultural outcomes in India has been the subject of an expanding corpus of literature. These studies offer a helpful conceptual and empirical framework for evaluating Telangana's implementation of programs like the Rythu Bandhu Scheme (RBS). Despite being relatively new, the RBS can be evaluated with the help of more comprehensive research on agricultural subsidies and direct benefit transfer (DBT) mechanisms. In the Warangal district of Telangana, Amitha et al. (2021) carried out a micro-level study to evaluate the effect of the Rythu Bandhu Scheme on farm-level results. According to their findings, investment support helped farmers increase crop yields, buy high-quality inputs, and lessen their reliance on unofficial credit. Additionally,

more financial independence and prompt crop management were reported by the benefited farmers. However, the study noted that because land ownership is a requirement for eligibility, landless tenant farmers—who make up a sizable portion of cultivators in Telangana—were mainly left out.

Padmavatahi (2024) offered a thorough examination of the scheme's execution in several Telangana districts. By 2023, more than 65 lakh farmers had received more than ₹65,000 crore, according to the study. Despite stabilizing seasonal input costs and increasing cash flow to rural households, the paper raised concerns regarding equity, pointing out that small and marginal farmers benefited proportionately less than larger landowners. Furthermore, there was little proof that the higher investment resulted in long-term gains in productivity.

The relative efficacy of input subsidies versus capital investments has been examined in national literature that goes beyond studies conducted specifically on Rythu Bandhu. Using time-series econometric modelling, Zafar et al. (2023) examined the long-term effects of public investment and input subsidies in India from 1983 to 2019. Although both types of assistance increased productivity, their research revealed that capital expenditures, especially those related to irrigation, R&D, and rural infrastructure, had more long-lasting and revolutionary effects. Although short-term beneficial, input subsidies have been shown to cause fiscal strain and skew market prices.

The trade-off between long-term investment spending and short-term consumption subsidies was emphasized in a related study that was published in the *International Journal of Social Economics* in 2022. It made the case that if subsidies are prioritized over other priorities, capital formation in agriculture may be displaced, which would undermine the sector's structural transformation. This is consistent with the findings of Kumar (2022), who found that declining gross capital formation (GCF) in agriculture was correlated with rising fertilizer and power subsidies in India. This suggests that subsidies may not be a sustainable driver of growth.

Mishra et al. (2024) assessed how agricultural subsidies affected the sustainability and profitability of farms in different Indian states. According to their findings, subsidies frequently result in ecological problems like groundwater depletion and input overuse, even though they do raise farm incomes and lessen vulnerabilities related to inputs. The authors suggested combining conditional or complementary investments in resource management, extension services, and input quality regulation with direct financial assistance.

The *Frontiers in Sustainable Food Systems* (2023) study used a separable household model to investigate how subsidies affect farmer behavior from the standpoint of household decision-making. It demonstrated how decisions regarding cropping, input intensity, and land use can be favorably impacted by financial transfers and subsidies. Larger farmers, however, were more likely to take advantage of these advantages, which widened the income gap in rural areas.

Crop diversification and agricultural household incomes in India were the main topics of Basantaray et al. (2024). According to their research, government assistance programs like DBTs and subsidies had a big impact on crop selection. However, farmers tended to favor high-input or water-intensive crops in the absence of targeted incentives, which could jeopardize the sustainability of resources.

When combined, these studies show a number of recurring themes: (1) investment support can boost farm productivity and stabilize incomes; (2) the effectiveness of subsidies depends on how well they are targeted and whether they are paired with structural investments; and (3) equity issues persist, particularly when schemes are based on land ownership rather than cultivation. In order to properly evaluate the effects of subsidy and investment support programs, the literature also stresses the significance of looking at the regional context, including agroclimatic conditions, irrigation access, and landholding structures.

There is still a significant gap in the assessment of regional programs such as Rythu Bandhu using district-level agricultural performance indicators, despite the expanding body of research on agricultural subsidies in India. There is little empirical analysis of how such schemes affect cultivated area, total production, and per-acre productivity across various agro-ecological zones because the majority of studies rely on household surveys or state-level aggregates. By methodically investigating the connection between Telangana's agricultural results and farm investment support, this study seeks to close that gap.

3. DATA AND METHODOLOGY

In the state of Telangana, this study examines the connection between farm investment support and important agricultural performance metrics, specifically area under cultivation, total production, and productivity. In particular,

the analysis focuses on the years 2018–19 to 2023–24, which correspond to the years after Telangana's flagship farm investment support program, the Rythu Bandhu Scheme, was introduced and put into effect.

Secondary data was gathered for this study from reputable, official government sources. The Government of Telangana's Directorate of Economics and Statistics, which offers yearly district-level data on agricultural area, production, and yields, is one of the main sources. The Government of Telangana's Ministry of Agriculture and the Planning Department of Telangana's yearly Socio-Economic Outlook reports provided additional information on agricultural inputs and scheme implementation. When taken as a whole, these sources provide a strong dataset for analyzing patterns in agricultural outcomes and farm investment support during the six years.

The study's variables are (i) the area under cultivation, expressed in hectares; (ii) the total amount of agricultural production, expressed in metric tonnes; and (iii) productivity, expressed as yield per hectare. The Rythu Bandhu disbursement, expressed both in terms of the total amount disbursed in each district and in terms of support per acre, is the primary independent variable. To evaluate the wider effect of farm investment support on agricultural performance, these variables were examined in every Telangana district.

Descriptive statistical methods are used in the study to track and analyze trends in the main variables over time and space. These include comparing the cultivated area, yields, and production levels at the district level before and after the Rythu Bandhu Scheme was put into place. The distribution of investment support across various districts and years was also examined using descriptive statistics, which helped us spot trends and differences in the scheme's reach and possible effects.

The study employs correlation analysis in addition to descriptive analysis to investigate the statistical connections between agricultural outcomes and the degree of farm investment support. In particular, the degree and direction of the linear relationship between Rythu Bandhu disbursements and variables like area cultivated, total output, and productivity were assessed using the Karl Pearson's correlation coefficient (r). Karl Pearson's correlation coefficient can be calculated using the following formula:

$$r = [n\sum xy - \sum x \sum y] / \sqrt{[(n\sum x^2 - (\sum x)^2) * (n\sum y^2 - (\sum y)^2)]}$$

where X_i and Y_i represent individual observations of the two variables, and $\bar{X}$ and $\bar{Y}$ are their individual resources. Perfect negative and perfect positive linear correlation are indicated by this coefficient, which ranges from -1 to +1. Because of the structure and accessibility of the data, the current study is limited to exploratory and correlational methods, even though more sophisticated econometric models, such as panel regression, may provide deeper causal insights. Nonetheless, the utilization of multi-year data from various districts enhances the analysis's depth and facilitates the discovery of recurring trends over time. All things considered, the approach taken in this study is suitable for comprehending general patterns and statistical connections in a policy setting where extensive direct benefit transfers are being employed as a means of fostering agricultural expansion. A solid basis for assessing how well the Rythu Bandhu Scheme has impacted Telangana's agricultural area, production, and productivity is provided by the combination of reliable official data sources and basic statistical methods.

4. RESULTS AND DISCUSSION

Table 1.1 Descriptive Statistics of the Variables in Telangana.

Variable	Minimum	Maximum	Mean	Std. Dev.
TNBRBSTG	94.03	138.97	117.10	17.39
TFIRBSTG	10482.12	15263.05	13408.20	2257.26
TACRBCTG	210.64	304.99	277.02	35.47
CATGGSDP	89197.00	123198.00	108688.17	12709.09
SATGGSPA	16.40	19.00	17.98	0.89
TGPI	140743.00	183854.00	158411.50	15777.80

Source Scholar's calculation.

The descriptive statistics of the key variables pertaining to Telangana state income and the Rythu Bandhu Scheme for the years 2018–19 to 2023–24 are explained in Table 1.1. With an average of 117.10 lakh and a standard deviation

of 17.39 lakh over the study period, the total number of beneficiaries under Telangana's Rythu Bandhu Scheme (TNBRBSTG) ranges from 94.03 lakh to 138.97 lakh. This demonstrates a relatively large variation in the number of beneficiaries covered during the course of the study. With an average of ₹13,408.20 crore and a standard deviation of ₹2,257.26 crore, the total farm investment support given to farmers (TFIRBSTG) also varies from ₹10,482.12 crore to ₹15,263.05 crore, indicating a significant spread in the amount of financial support extended through the scheme. Similarly, the total area covered by the scheme also reflects changes over time, ranging from 210.64 lakh acres to 304.99 lakh acres and policy operation.

The total area covered by the scheme, TACRBCTG, ranges from 210.64 lakh acres to 304.99 lakh acres, with an average of 275.02 lakh acres and a standard deviation of 35.47 lakh acres. Significant differences in scheme coverage are also implied by this, which may be connected to seasonal crop selection or administrative adjustments. The gross state domestic product from agriculture and related sectors (CATGGSDP) ranges from ₹89,197 crore to ₹1,23,198 crore, with an average of ₹1,08,688.17 crore. This clearly shows how much agriculture contributes to the state's GDP. Consistent agricultural importance is emphasized by the Share of Agriculture in Gross State Value Added (SATGGSVA), which has a low standard deviation (0.89) and a narrow range (16.40% to 19.00%). The Total Gross Production Index (TGPI), which has a mean of ₹1,58,411.50 crore and a standard deviation of ₹15,777.80 crore, ranges from ₹1,40,743 crore to ₹1,83,854 crore, reflecting slight variations in the state's overall economic output. All things considered, the descriptive statistics suggest that while the Rythu Bandhu Scheme and agriculture continue to be essential elements of Telangana's economy, their implementation and outcomes have evolved significantly over time.

Table 1.2 The Relationship between Farm Investment Support and Agricultural Area, Production and Productivity in Telangana.

Variable	Statistic	TNBRBSTG	TFIRBSTG	TACRBCTG	CATGGSDP	SATGGSVA	TGPI
TNBRBSTG	Pearson Correlation	1	.938(**)	.885(*)	.817(*)	.396	.724
	Sig. (2-tailed)		.006	.019	.047	.437	.103
TFIRBSTG	Pearson Correlation	.938(**)	1	.879(*)	.738	.610	.482
	Sig. (2-tailed)	.006		.021	.094	.198	.333
TACRBCTG	Pearson Correlation	.885(*)	.879(*)	1	.475	.238	.390
	Sig. (2-tailed)	.019	.021		.341	.650	.445
CATGGSDP	Pearson Correlation	.817(*)	.738	.475	1	.578	.845(*)
	Sig. (2-tailed)	.047	.094	.341		.229	.034
SATGGSVA	Pearson Correlation	.396	.610	.238	.578	1	.066
	Sig. (2-tailed)	.437	.198	.650	.229		.901
TGPI	Pearson Correlation	.724	.482	.390	.845(*)	.066	1
	Sig. (2-tailed)	.103	.333	.445	.034	.901	

Note *, and ** indicates correlation is significant at the 0.05 and 0.01 level (2-tailed).

The correlation analysis results in table 1.2 reveals that there is a strong and significant positive link between the number of beneficiaries of the Rythu Bandu scheme in Telangana (TNBRBSTG) and three important variables: total farm investment from the Rythu Bandu scheme in Telangana (TFIRBSTG), total area covered by the Rythu Bandu scheme (TACRBCTG), and agriculture's contribution to GSDP (CATGGSDP). Specifically, the correlation between TNBRBSTG and TFIRBSTG is very strong ($r = 0.938$, $p = 0.006$), indicating that increased financial support is closely associated with a rise in the number of beneficiaries. TNBRBSTG is also strongly linked to TACRBCTG ($r = 0.885$, $p = 0.019$), which means that as more area is added to the scheme, the number of people who benefit from it also goes up. Also, the positive relationship between TNBRBSTG and CATGGSDP ($r = 0.817$, $p = 0.047$) suggests that the scheme's outreach is good for the agricultural sector's share of the state's economy.

However, the correlations between TNBRBSTG and both Telangana's Gross Per Capita Income (TGPI) and the share of agriculture in Gross State Value Added (SATGGSVA) are not statistically significant, even though, they are positive. The correlation with SATGGSVA ($r = 0.396$, $p = 0.437$) is moderate but not significant, which means that there is a weak link. The correlation with TGPI ($r = 0.724$, $p = 0.103$) also suggests a possible trend, but the evidence isn't strong enough to prove that there is a significant relationship. These findings collectively underscore that financial allocation and the expansion of coverage area are essential factors in enhancing scheme participation, which subsequently exerts a positive influence on broader economic indicators such as GSDP, although their direct effects on production indices and value-added measures may necessitate further examination.

Total farm investment received by the farmers under the Rythu Bandu scheme is positively related and statistically significant with the variables total area covered in Rythu Bandu scheme ($r=0.93$, and $p=0.06$), contribution of agriculture sector to GSDP in Telangana state ($r=0.87$, and $p=0.94$). Moreover, the variables Share of Primary Sector to Telangana GSDP (SATGGSVA) and per-capita income in Telangana state exhibit a positive correlation with TFIRBSTG, although this association is not statistically significant.

The total area covered by the Rythu Bandu scheme is positively correlated and statistically significant with the total number of farmers included in the Rythu Bandhu scheme TNBRBSTG ($r=0.88$, $p=0.019$) and TFIRBSTG ($r=0.87$, $p=0.021$). The variables CATGGSDP ($r=0.47$), SATGGSVA ($r=0.23$), and TGPI ($r=0.39$) are positively related to TACRBCTG but not statistically significant.

The correlation analysis between agricultural scheme variables and economic indicators of Telangana uncovers several significant patterns. The Gross State Domestic Product from Agriculture and Allied Sectors (CATGGSDP) exhibits a robust and statistically significant positive correlation with the total number of beneficiaries under the Rythu Bandhu Scheme (TNBRBSTG), evidenced by a Pearson correlation coefficient of 0.817 and a p-value of 0.047. This indicates that an increase in the number of farmers receiving assistance through the program is linked to an increase in the state's agricultural GDP, which means that the program may be having a positive effect on the agricultural economy as a whole. CATGGSDP has a moderately strong correlation with total farm investment support (TFIRBSTG) ($r = 0.738$) and area covered under the scheme (TACRBCTG) ($r = 0.475$), but these correlations are not statistically significant. These relationships still suggest that investing through the scheme and expanding the covered area may help agricultural output, even if other factors may make these links weaker.

On the other hand, the Share of Agriculture in the Gross State Value Added (SATGGSVA) shows weaker and mostly not significant links to Rythu Bandhu-related variables. For example, SATGGSVA and TNBRBSTG have a correlation of 0.396, and SATGGSVA and TFIRBSTG have a correlation of 0.610, which are both not statistically significant. This means that even though the agricultural GDP might be going up in absolute terms, its share of the overall state economy is not changing very much because of the Rythu Bandhu implementation. Furthermore, the correlation between SATGGSVA and TACRBCTG is very weak ($r = 0.238$), indicating that area expansion under the scheme does not have a strong influence on agriculture's share in the state economy. This could be because other sectors, like services and industry, are growing faster than agriculture, even though support for agriculture is growing.

Telangana's Per Capita Income (TGPI) has a strong and statistically significant relationship with CATGGSDP ($r = 0.845$, $p = 0.034$). This shows that there is a strong link between agricultural output and overall economic output in Telangana. The correlations between TGPI and Rythu Bandhu variables such as TNBRBSTG ($r = 0.724$), TFIRBSTG ($r = 0.482$), and TACRBCTG ($r = 0.390$) are positive yet not statistically significant. This means that the scheme might help the economy grow by increasing agricultural output, but its effects might not be strong or immediate enough to show consistent statistical significance in this sample. Also, TGPI has an almost non-existent correlation with SATGGSVA ($r = 0.066$), which further shows that agriculture's share of the economy is pretty stable, no matter how much output or beneficiaries increase.

5. SUMMARY AND CONCLUSION

The purpose of this study was to look into the connection between the Rythu Bandhu Scheme (RBS), which is a direct farm investment support program started by the Government of Telangana, and important agricultural and economic indicators like cultivated area, production levels, productivity, and agriculture's contribution to the state economy. The research sought to deliver empirical insights regarding the scheme's efficacy in enhancing agricultural outcomes and fostering economic resilience in the rural sector by examining secondary data from 2018–19 to 2023–24, obtained from the Directorate of Economics and Statistics, the Ministry of Agriculture, and the Socio-Economic Outlook reports of Telangana.

Descriptive statistics showed a clear upward trend in both the total number of beneficiaries and the total area covered by the Rythu Bandhu Scheme. This shows that the program is becoming more popular and reaching more people across the state. The scheme's regular payments of ₹5,000 per acre per season seem to have motivated farmers to cultivate more land and better manage their input costs. These trends are in line with the scheme's main goals, which are to lower the financial stress of inputs and make sure that farming operations happen on time.

Correlation analysis corroborated the identified trends. There was a statistically significant and strong positive correlation between the number of beneficiaries and both the total financial investment ($r = 0.938$, $p = 0.006$) and the total area covered ($r = 0.885$, $p = 0.019$). This means that increasing coverage directly leads to more people signing up for the scheme. There was also a significant positive correlation between Rythu Bandhu participation and agriculture's contribution to Telangana's Gross State Domestic Product ($r = 0.817$, $p = 0.047$). This supports the idea that helping farmers invest can improve agricultural output at the state level.

Nonetheless, the study also recognized constraints in the overarching economic ramifications of the scheme. There were positive correlations between Rythu Bandhu indicators and variables like Telangana's per capita income and the share of agriculture in Gross State Value Added (GSVA), but these correlations were not statistically significant. This means that even though the amount of food being produced may be going up, its share of the growing state economy is not keeping up. This is probably because the industrial and service sectors are growing faster. The scheme also doesn't include tenant farmers and landless cultivators, which makes it less fair and less open to everyone.

These results show that Rythu Bandhu has helped farms make more money, grow more crops, and add to the agricultural GSDP. But it is still not clear how it will affect more structural indicators like productivity per hectare, economic equity, and long-term sustainability. The data also show that we need more detailed assessments, like looking at crops or groups of farmers, to figure out how the effects are different in different districts, farm sizes, and agro-ecological zones.

In summary, the Rythu Bandhu Scheme has been very successful in helping farmers get direct investment, getting more people involved in agriculture, and improving the economy in Telangana. However, for the scheme to provide more long-lasting and inclusive benefits, it should be combined with other actions that support it, such as improving irrigation, making it easier for farmers to get to markets, managing soil health, and including tenant farmers. Future research could delve deeper into these dimensions, and policymakers might contemplate enhancing the scheme design to rectify coverage deficiencies and optimize long-term productivity and resilience in Telangana's agricultural economy.

CONFLICT OF INTERESTS

None.

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