

DETERMINANTS OF ADOPTION OF PM-KISAN SCHEME: EMPIRICAL EVIDENCE FROM JHAJJAR DISTRICT IN HARYANA

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Abstract

The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme is funded entirely by the Indian government to provide guaranteed monetary assistance to all eligible farmers. The purpose of the existing study is to determine the factors that influence farmer adoption of the PM-KISAN scheme, as well as to examine the spending patterns of the benefits received by farmers and also to evaluate the scheme's performance. The field survey was conducted in Jhajjar district of Haryana. A total of 210 farmers, including 148 beneficiaries and 62 non-beneficiaries, were interviewed using a semi-structured questionnaire. The study uses a probit regression model to find the factors that influence scheme adoption. Results show that farmers with old age, and having registered landholding (farm size) are more likely to adopt the scheme. Farmers who rely on non-farm income are less likely to adopt the scheme. The majority of the benefit money is spent on fertilisers, insecticides, and household consumption by farmers. Farmers reveal that there is an increase in their standard of living and productivity as a result of the scheme.

Keywords: PM-KISAN Scheme, Adoption, Spending Pattern, Performance.

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Introduction

Agriculture constitutes a key part of the Indian economy. It is the mainstay of the Indian economy that makes a significant contribution to the socio-economic development of the country (Borthakur & Singh, 2012). But, for a long time, the farming community has been struggling with financial hardships, despite Indian agriculture production making tremendous progress after the Green Revolution. The agriculture sector adopted new farming techniques and started using quality seeds, fertilizers, and agrochemicals besides increased electricity consumption and better irrigation facilities. The governments at the Centre and States have addressed this socioeconomic concern through the implementation of several initiatives and methods, and by providing time-to-time support to the farmers. The PM KISAN scheme was launched in the year 2018 by the Indian government to augment the income of the farmers¹ and complement their financial needs by providing several agricultural inputs. The scheme provides direct monetary provision to all eligible landholding growers and their families.² In this, direct income support is provided to all farmers regardless of the size of their landholdings. Such cash transfer programmes enhanced agricultural activities among beneficiary households as it increased the use of agricultural inputs and bettered livestock holdings (FAO, 2016). Direct benefit transfer (DBT) enhances liquidity and enables farmers to purchase agricultural inputs. The advantage of DBT is that it avoids leakages as the benefit amount is directly transferred to the beneficiary account (Roy, 2019). Besides, cash transfer encourages investments in education, health, and household consumption and alleviates poverty in the short run (Fiszbein & Schady, 2009). The flexibility of funds given through the government transfer programme played a key role in reducing credit limitations and boosting agricultural investments in essential inputs. Farmers who received direct cash transfers from the PMGKY showed a notable increase in expenditure on seeds, fertilizers, and pesticides (Varshney et al., 2021). In other initiatives of the government,

farmers were incentivised through remunerative prices for selected crops and subsidies provided for on-farm inputs. But still, farmers own a very poor income from crop cultivation and that results in increased indebtedness (Narayanamoorthy, 2017). In addition, it was also found that the majority of farming families do not have access to formal credit in India (Varshney, Joshi, Roy, & Kumar, 2020).

The Pradhan Mantri Kisan Samman Nidhi (PM KISAN) Yojana, a flagship scheme of the Government of India, has been operational since 1st December 2018. It is a scheme with 100 per cent funding from the Government of India. This revolutionary scheme implemented through Direct Benefit Transfer (DBT) aims to provide assured monetary support to farmers. Under this scheme, each farmer with cultivable landholdings can receive Rs. 6000 through DBT in three equal payments of rupees 2000 each. Using the benefit, they will be able to access the inputs required to maintain good health of crops and thereby ensure an adequate level of yield. The identification of beneficiary farmers' families is the responsibility of States and Union Territories. Also, a broad monitoring system has been introduced to effectively implement the scheme across States. Apart from this, a high-level committee, including Union Ministers of Rural Development, Finance, and Agriculture made important changes to this scheme. A review committee at the national level under the chairmanship of the cabinet secretary will review its implementation from time to time. At the State and Union Territory level, nodal departments and Central Project Monitoring Units (PMUs) consistently monitor its implementation. The Central government released the 8th instalment under this scheme in May 2021. With this, the government transferred the benefit amount to the accounts of 10,18,91,234 beneficiaries (pmkisan.gov.in). So far, the Samman Rashi of more than Rs 1.15 lakh crore has been allocated to farming households. In Haryana, the scheme has completed three financial years. The saturation rate³ in Haryana from April to July 2021 is 92 per cent. According to the Ministry of Agriculture and Farmers' Welfare, The eligible farmers in Haryana

was 19,44,516 during the 8th instalment of the scheme, whereas the total number of payments to beneficiaries is 17,89,506.

The main purpose of this study is to explore the determinants of the adoption of the PM-KISAN scheme in Jhajjar district of Haryana. Also, this paper analyses the reasons behind the non-adoption of the scheme among farmers. It also highlights the spending patterns of the beneficiary farmers and the operational efficiency of the scheme. To the best knowledge of the researchers, such a comprehensive study on PM-KISAN has not been conducted in Haryana which may be because of the recent introduction of this scheme. The Jhajjar district located in the northern part of Haryana was selected purposely to conduct the study. It is considered the most climatically suitable area for agricultural activities. As per the 2011 census, 42.9 per cent of the main workers in this district were engaged in agricultural activities. The proportion of marginal workers engaged in agricultural activities is very high at 64.3 per cent (District Census Handbook Jhajjar, 2011).

As part of the study, a survey was conducted among the farmers in Jhajjar district. The generalised linear model is used to study the factors which govern the adoption behaviour of farmers. The results show that the age of the beneficiary farmer, farm size or size of operational landholding and proportion of non-farm income in total income are the factors that mainly determine the adoption of the scheme. The spending pattern shows that farmers mainly use the benefit amount on agricultural activities and household consumption. Finally, the study reveals the reasons behind the non-adoption of the scheme are the share of tenant⁴ and sharecropper farmers.

Literature Review

Very few studies have been conducted on PM KISAN Yojana in India. Varshney et al. (2020) investigated the execution of the PM KISAN Yojana in Uttar Pradesh and also explored how the beneficiaries are spending the money received

under this scheme. The findings revealed that the scheme covered one-third of the agriculturalists of Uttar Pradesh in the first three months of its launch. Also, the results show that farmers, who receive PM KISAN assistance during the topmost time of the farming season, are expected to use this money on agricultural activities, whereas those who receive this benefit during the off-season spend it on education, consumption, medical purposes, etc. The spending pattern depends on farm size, access to credit facilities and the dependence of a farmer on the agriculture sector, although, it is not defined how the money will be spent. Kumar and Baby (2018) studied the awareness level of farmers with respect to the Pradhan Mantri Kisan Samman Nidhi Yojana in a district of Uttar Pradesh. They conducted a primary survey of 1406 farmers in Uttar Pradesh and analysed the data using the Probit model. They find that 93 per cent of beneficiary farmers have already applied for the scheme depicting their level of awareness. Among those who have received the initial instalment, 52 per cent used the benefit amount on agriculture and consumption (26 per cent), followed by education and health (7 per cent) and the residual on incidental expenses. It was observed that funds disbursed under this scheme were primarily used for purchasing seeds, fertilizers, and pesticides in the Kalyan Karnataka region. The farmers' awareness of the scheme was mainly through fellow farmers, newspapers, and banks (Naik et al., 2022). Sharma (2019) observed that the scheme positively influences the income of growers along with other macroeconomic indicators like farming output, government revenue, savings, and trade. In comparison to the input subsidy scheme, PM-KISAN has a more positive impact on farmers' income and the growth of the agriculture sector. The study also suggests that if the government aims to augment the income of the farmers, then the government has to launch income support programmes.

Particularly in Haryana, a study using secondary data revealed that the scheme has achieved significant outcomes in stabilising farmers' income, although the amount given to

them was deemed inadequate (Malik & Phougat, 2021). In a similar study, Kumar and Phougat (2022) suggested that sufficient payment to ensure a decent standard of living is needed. Thegaleesan (2020) investigated whether the fund benefit received under the PM-KISAN scheme is sufficient to solve the practical life problems of farmers. Results show that the scheme is undoubtedly advantageous for vulnerable farmers in India as supplement revenue and used for purchasing farming inputs. It has played a vital role in tackling the crisis of economic slowdown and stopping the suicide of farmers. The study suggests that actual cultivators and renters should be eligible for this scheme in place of the landholder farmers. Roy (2019) highlighted the challenges of this scheme. He argued that although the scheme is a good initiative, is it sufficient to lessen India's agony of agriculture. He mentioned that the main purpose of the scheme is to improve consumption in rural areas and support needy farmers to come out of severe poverty. But without adequate focus on implementation and proper strategy, the scheme is invaluable in principle; and there are chances of insignificant results of this scheme. Roy suggests that a proper well-thought-out execution machinery with bottom-up approach will be helpful in the identification and rectification of the flaws at the lower level. The most prompting scheme can then be implemented nationally and can achieve its goal. Jagadeeswari et al. (2021) stated that the PM-KISAN scheme has the potential to break the vicious cycle of low income and poverty among farmers through investment in subsidised inputs and advanced technology.

Shroff (2019) criticised this scheme because these huge budgetary allocations provided under this scheme can be spent on rural roads, electricity, quality school education, Digital India and skill development rather than such investments, which will help to treat the disease rather than symptoms of agrarian distress. On the other hand, this study also stated that the marginal utility of money received under PM KISAN is very high for poor farmers and this amount may help them to take care of their pressing needs. Gulati et al. (2021)

explained in their book that there are some major challenges related to the PM-KISAN scheme. The benefit amount under the scheme is Rs.6000/year/farmer's family or Rs.17/day, which is extremely inadequate in a state like Haryana; also, the payment is not adjusted to the inflation rate. On the other hand, the scheme only covers landowning minor and marginal farmers while sharecroppers, tenants and landless agricultural labourers are excluded. Other challenges of the scheme are inadequately updated land records, last-mile connectivity and fiscal implications.

There is a significant difference among States/UTs regarding their performance on implementation of the PM KISAN scheme, with Haryana, Punjab, Assam, Andaman & Nicobar Islands, and Manipur placed at the top, while Goa, Sikkim, Lakshadweep, Tripura, Puducherry, Bihar, and are placed at the bottom. Uttar Pradesh has the largest percentage of beneficiaries. Factors conducive to the better results of the comparatively low-performing States include better financial access for farmers, better dissemination of technology and infrastructure development. It was recommended that States should prioritise proper upkeeping of land records in the digital form besides linking the Aadhaar details of potential beneficiaries with their bank accounts (Kavitha et al., 2020).

Study Area and Methodology

To fulfil the objective of the study, a field survey was conducted from the 1st week of March 2021 to April 2021 in Jhajjar district, situated in the central part of southern Haryana. The district lies in the confluence of Indo-Gangetic plains in the northeast, the Bagar tract in the west and Aravali offshoots in the south.

To find out the factors that determine the adoption and reasons behind the non-adoption of the PM-KISAN scheme, a stratified multi-stage random sampling technique was used to choose the farmers for the study. Jhajjar district was selected for study as the investigator was aware of

the area, and his familiarity with the people and district-level officials. Next, Badli block was chosen from the district, and three villages of the Block, namely Suloda, Silana, and Surheti were selected based on the PM-KISAN scheme implementation in these villages. Finally, 148 beneficiary and 62 non-beneficiary farmers were randomly chosen from the selected villages. Thus, a total of 210 farmers were selected for the study. The selection criterion was the involvement of samples in farming activities. As part of the survey, non-beneficiary farmers, encompassing individuals with different farmland sizes as well as tenant and sharecropper farmers, were also included. Direct interviews and semi-structured questionnaires were used to collect primary data from these farmers. The beneficiary farmers were also asked to rate their satisfaction level with PM KISAN on a five-point Likert scale and their spending pattern of the benefit received.

Findings of the Survey

Socio-economic Profile of Beneficiary and Non-Beneficiary Farmers: The adoption rate of the PM-KISAN scheme determines its operational efficiency. The use of the scheme by farmers is influenced by a variety of socio-economic factors. The socio-economic characteristics of farmers including their age, cultivation experience, farm income, and expenditure on fertilizers were determined by the adoption of the scheme.

A comparative study of the socio-economic characteristics of the beneficiary (71 per cent) and non-beneficiary (29 per cent) farmers demonstrates that majority of them belonged to the age group of 45 to 64 years (45.3 per cent) and the majority of non-beneficiary farmers fell under 45 years (64.5 per cent) age group. Thus, with age, the adoption rate among farmers also increases in the scheme. The beneficiary farmers belonging to other backward castes (OBC) were 84.5 per cent and non-beneficiary farmers in the OBC category were 80.6 per cent. Therefore, it cannot be concluded that farmers belonging to a certain caste category influence the adoption rate. The family size (members per household) of beneficiary farmers

(2.37) and non-beneficiary farmers (2.69) also does not indicate any reasonable difference. The average number of educational years in beneficiary farmers is 9.60 and among non-beneficiary farmers is 11.06. Thus, it cannot be concluded that farmers with more educational years have high adoption of the scheme. In terms of ownership of land (farm size), a high percentage of beneficiary farmers are small and marginalised farmers (67.6 and 23.3 per cent, respectively), owning land less than two hectares, compared to non-beneficiary farmers (85.5 per cent), who are mostly landless.

In terms of source of income, farming is the primary source of revenue for all of the households in the sample. Despite this, beneficiary farmers' income from farming accounts for 86.9 per cent of total income, compared to 67.7 per cent for non-beneficiary farmers. Farmers who rely on agriculture for their livelihood are the ones who are most likely to benefit from the scheme. Farmers spend nearly Rs. 8800 on aggregate fertilizers per acre per year, whether they are beneficiaries or non-beneficiaries.

Determinants of Adoption of PM-KISAN Yojana

Although the PM-KISAN is a universal basic income scheme for all farmers with landholdings who desire to benefit from it, various elements influence farmers' willingness to adopt it. Based on the literature, the null hypothesis for the study is that there is no significant impact of socio-economic variables on the adoption of the scheme, as well as no significant impact of farm characteristics on adoption.

In the present study, the probit regression model has been used to explore the factors that influence farmers' adoption of the PM-KISAN scheme. Employing the probit model not only identifies the significant factors that influence farmers' decision-making processes but also quantifies their impact on the likelihood of adopting the scheme. It assumes a normal cumulative distribution function, which allows for the transformation of the linear combination of independent variables into a probability. This model considers both the category of farmers who benefit

Table 1*Socio-economic Profile of Beneficiary and Non-Beneficiary Farmers of PM-KISAN Scheme*

Characteristics	Beneficiary farmers	Non-beneficiary farmers
Total households	148 (100)	62 (100)
Age category		
Under 45 Years	61 (41.2)	40 (64.5)
45 to 64 Years	67 (45.3)	20 (32.3)
65 Years and Above	20 (13.5)	2 (3.2)
Cultivation Experience (average number of years)	22.85	15.61
Caste		
General	21 (14.2)	9 (14.5)
Schedule Caste (SC)	2 (1.4)	3 (4.8)
Other Backward Caste (OBC)	125 (84.5)	50 (80.6)
Family Size (average members per household)	2.37	2.69
Education Years	9.6	11.06
Farmer class⁵ category		
Marginal Farmers	100 (67.6)	5 (8.1)
Small Farmers	34 (23.3)	1 (1.6)
Semi-medium Farmers	12 (8.1)	2 (3.2)
Medium Farmers	1 (0.5)	0 (0.0)
Large Farmers	1 (0.5)	1 (1.6)
Landless Farmers	0 (0.0)	53 (85.5)
Income (Rupees/household)		
Farm income	239256.7 (86.9)	161548.3 (67.8)
Non-farm income	36028.5 (13.1)	76851.9 (32.2)
Expenditure of aggregate fertilizer/acre/year	8833.8	8888.7

Source: Author's calculation, Field survey.

Note: Figures in the parenthesis represents a percentage (%)

from the scheme and those who do not. The dependent variable is the PM KISAN scheme adoption behaviour = 1, if opted for the scheme and adoption behaviour = 0, if not opted for the scheme.

The explanatory variables used in the probit regression model are mentioned below:

$PMKADOP = f (AGE, CULEX, CASTE, EDU, FAMS, FARMSIZE, TIH, GFARMIN, NFARMIN, FERTIEXP)$

Where, PMKADOP is the adoption of the PM Kisan scheme which can take the value of either 0 or 1.

AGE = age of the farmer in years

CULEX = number of years of cultivation experience

CASTE = whether the farmers belong to OBC; if yes= 1, if no= 0

EDU = the number of years that the farmer has been educated

FAMS = family members of a farmer (including spouse and minor child)

FARM SIZE = Size of operational land holding

TIH = total income of the household

GFARMIN = farmer's gross farm income

NFARMIN = non-farm income as a percentage of total income

FERTIEXP = Aggregate fertiliser expenditure per acre throughout a year

The explanatory variables have been divided into two categories: socioeconomic characteristics and farm characteristics. The projected results of the probit model are shown in Table 2, which demonstrates that the coefficients of the age of the farmers and the proportion of non-farm income to total income are statistically significant at a 5 per cent level. These results depict that the null hypothesis is not accepted for the variable age and non-farm income with a p-value of 0.018 and 0.002, respectively. Specifically for the variable age, considering the marginal effects, it approximates that a one-unit increase in age would lead to a 0.043-unit increase in the probability of adoption of the scheme. It implies that farmers in their later years are more inclined to adopt this scheme. One explanation for this is that in a State like Haryana, particularly in rural areas, land ownership is registered with the family's oldest member, usually a male member. The land's successor, however, is responsible for most of the farming operations on the farmland. Another reason is the unwillingness of farmers to send their younger generation into agriculture (Gautam et al., 2022). Thus, the adopting behaviour of young farmers is seen as low in this model. In addition, the farmers who rely on non-farm income are less likely to adopt this

scheme, as the non-farm income coefficient is negative. This means that for a one-unit increase in non-farm income, the predicted probability of adopting the PM-Kisan scheme decreases by 0.016 units. The p-value of 0.002 further supports the relationship between non-farm income and adoption behaviour. It is found that farmers with smaller land sizes and smaller wealth from the field are more likely to adopt this scheme (Varshney et al., 2021). It is also shown that cultivating experience and education have a negative effect on the adoption of the PM-KISAN scheme. As previously stated, majority of registered land ownership is held by elderly farmers, and it is observed that landless farmers are more educated and relatively young. As a result, education has little effect on farmers' willingness to adopt the scheme. Moreover, educated farmers earn their income from various sources like salary and small businesses; they are not solely dependent on agricultural income. It is found that individuals engaged in regular salaried jobs usually exhibit higher educational accomplishments and make better incomes from non-agricultural employment (Kijima et al., 2006). Another study stated similar findings that educated persons diversify their livelihood options other than agriculture (Khatun & Roy, 2012). Even if, old-age farmers are not well educated, they are aware of the scheme through friends and relatives.

The second part of Table 2 relates to farm characteristics, such as farm size, farm income, and aggregate expenditure. In 2019, the Central government declared that all sorts of farmers, regardless of farm size, will be eligible for the scheme's benefits. Initially, this incentive was only available to small and marginal farmers. As a result of this choice, the farm size variable displays the expected signs and is statistically significant and the null hypothesis for farm size is not accepted, which means that for a one-unit increase in farm size, the predicted probability of adopting the scheme increases by 0.081 units. So, farmers with larger farm sizes are more likely to adopt the PM-KISAN scheme. Total income and aggregate spending per acre do not show any expected

Table 2*Determinants of Adoption of PM-KISAN Scheme*

Explanatory Variables	PM-KISAN Scheme Adoption		
	Coefficient	Z Statistics	P Value
Socio-economic characteristics			
AGE	0.043**	2.36	0.018
CULEX	-0.014	-0.76	0.446
CASTE	0.016	0.06	0.954
EDU	-0.001	-0.02	0.981
FAMS	0.075	0.77	0.440
NMARMIN	-0.016*	-3.05	0.002
Farm characteristics			
FARM SIZE	0.081**	2.18	0.029
TIH	-5.26e-07	-0.45	0.654
GFARMIN	4.23e-07	0.34	0.734
FARTIEXP	-0.000	-0.60	0.546
Log likelihood= -102.91			
Pseudo R2= 0.1923			
No. of Observations= 210			

Source: Authors' calculations.

Note: * Significant at 1 per cent level

** Significant at a 5 per cent level

signs and are not statistically significant with the adoption of the PM-KISAN scheme.

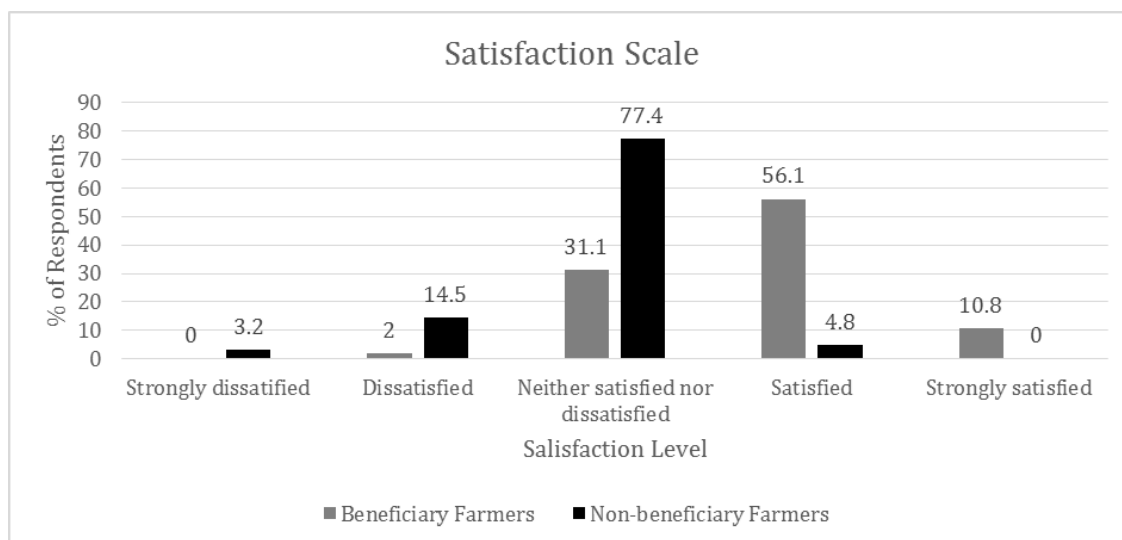
Overall, the pseudo R2 (it compares the likelihood ratio by the difference between the unconstrained and constrained model) obtained from the analysis suggests that the Probit Model explains 19 per cent of the variability in farmer adoption or non-adoption of the PM-KISAN scheme.

Satisfaction with the Scheme: Farmers were asked to rate how satisfied they were with the PM-KISAN scheme. The satisfaction measurement scale ranging from "strongly dissatisfied" to "strongly satisfied" has been applied, as it captures

the diverse range of opinions and experiences of the respondents, ensures clarity and comparability of responses, and facilitates comprehensive analysis of satisfaction levels with the scheme. The results depicted in Table 3 suggest that 10.8 per cent of the scheme's beneficiaries are extremely satisfied. The scheme is liked by 56.1 per cent of beneficiaries and 4.8 per cent of non-beneficiaries. The majority of non-beneficiary farmers are either neutral (77.4 per cent) or dissatisfied (14.5 per cent) with the scheme. Despite this, 31.1 per cent of the beneficiaries remained neutral. Farmers' dissatisfaction stems mostly from the failure of the scheme to address the issue of rising fertiliser, seed, insecticide, and diesel prices.

Table 3*Satisfaction towards the PM-KISAN Scheme*

Level of Satisfaction	Beneficiary Farmers	Non-beneficiary Farmers
Strongly dissatisfied	0 (0.0)	2 (3.2)
Dissatisfied	3 (2.0)	9 (14.5)
Neither satisfied nor dissatisfied	46 (31.1)	48 (77.4)
Satisfied	83 (56.1)	3 (4.8)
Strongly satisfied	16 (10.8)	0 (0.0)
Total	148 (100.0)	62 (100.0)

Figure 1*Satisfaction Level of Farmers towards PM-KISAN Scheme*

Reasons for Non-Usage of the Scheme: The ineligibility of farmers for the scheme was a major factor in its non-use. Eighty-two per cent of the 62 non-beneficiary farmers are tenant and sharecropper farmers who are not covered by the scheme. These farmers are involved in farming activities but do not have registered land ownership, which makes them ineligible for the scheme's advantages, while, 4.8 per cent of farmers say they have already completed the documentation process and were awaiting payment. Other issues faced by farmers include lack of accurate land records and difficulties with

documentation. A small percentage of farmers are ignorant of the scheme and have little idea that the government has expanded the advantage of the scheme to 2-hectare landholdings to cover all types of farmers.

The Spending Pattern of Benefit Received Under the Scheme: The scheme has so far distributed eight instalments to the farmers who have benefited from it. As per some empirical investigations, farmers who received benefits during the peak agriculture season spent their money on agriculture, while farmers who received benefits during the off-season used their money on

consumption, education, and medical purposes (Varshney, Joshi, Roy, & Kumar, 2020; Kumar & Babu, 2018). Supporting this argument, similar findings stated that based on the agricultural season, the fund utilisation patterns varied

significantly between marginal and small farmers (Bhadwal & Kumar, 2022).

Our findings show that farmers' spending patterns are closely aligned with the aims of PM-KISAN Scheme.

Table 4

Spending Pattern of Benefit Received under the Scheme

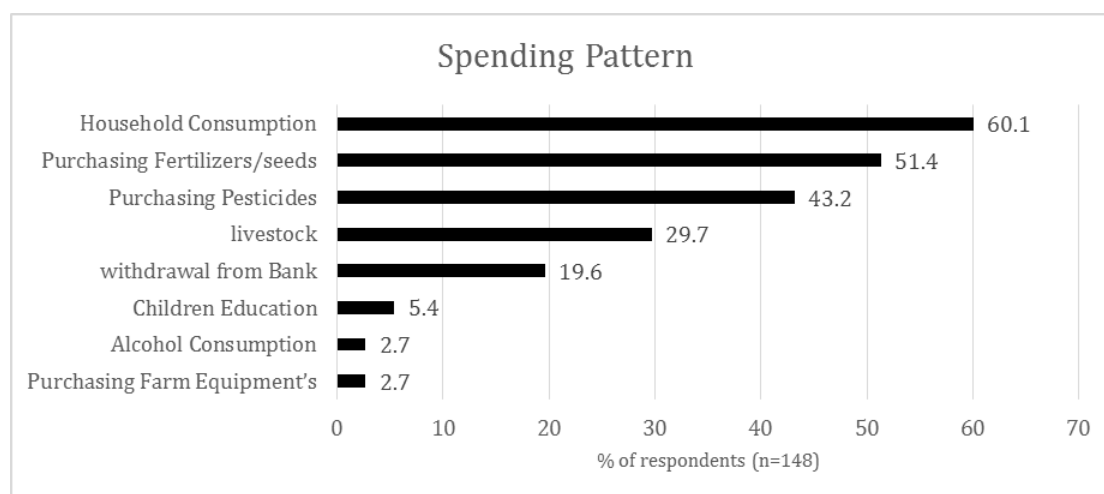
Statements	Frequency (number of respondents)	% of respondents (n=148)
Purchasing Fertilizers/seeds	76	51.4
Purchasing Pesticides	64	43.2
Purchasing Farm Equipment	4	2.7
livestock	44	29.7
Household Consumption	89	60.1
Alcohol Consumption	4	2.7
Children Education	8	5.4
Withdrawal from Bank	29	19.6

The findings suggest that majority of 148 benefited farmers (60.1 per cent) use the money on household consumption, followed by fertiliser and seed purchases (51.4 per cent). Pesticides are purchased by 43.2 per cent of farmers whereas 29.7 per cent spend money on livestock. A few

farmers (19.6 per cent) did not withdraw the incentive money from the bank and use it as needed while some invested in their children's education. A relatively small number of farmers spent the amount for alcohol consumption.

Figure 2

Satisfaction Pattern of Farmers



Performance Assessment: To assess the PM-KISAN scheme's performance, both beneficiary and non-beneficiary farmers were interviewed. A high proportion of farmers (62.1 per cent) feel that the scheme helps to improve their living standards in some way; 51.3 per cent believe that it has helped to increase productivity by allowing them to spend more money on fertilisers, seeds, and pesticides. Eighteen per cent of farmers believe that it helped them minimise their credit burden as they had to rely on relatives for minor loans on previous occasions. They also believe that the scheme helps in reducing poverty to some extent. Some farmers, on the other hand, claim that the scheme was introduced in 2019 by the ruling administration for political advantage and it is merely a political agenda. Some farmers argue that the initiative has not influenced their livelihood because the financial assistance is insufficient to cover the bare necessities of poor farmers.

Farmers propose that the government should consider the factor of inflation; otherwise, this scheme will have little influence. They say the price of seeds and fertilisers are also going up along with the benefit amount so their situation is more or less the same. Accordingly, 71 per cent wanted the amount given to them under this scheme to be increased. In addition, 45.7 per cent believe that the scheme should cover tenant farmers who do not have a registered landholding but work on farmland and rely on farming as their primary source of income. Although 87.2 per cent of farmers receive their benefits on schedule, 9.5 per cent complained of experiencing some irregularities in receiving their benefits. The farmers, therefore, believe that the scheme should have a proper grievance-redressing mechanism.

Conclusion

The primary aim of this paper is to investigate adoption determinants, investigate spending patterns of benefits, and evaluate the performance of PM-KISAN scheme. The results of the probit regression analysis show that older farmers and those with a registered landholding (farm size) are more likely to adopt it whereas those relying on non-farm income are less likely to take on. The findings

show a negative relationship between education and farmers' willingness to accept the scheme; the likely reasons for this trend can be attributed to holding of land ownership majorly by elderly farmers and low education level of landholding farmers. With the implementation of the PM-KISAN scheme, total income and aggregate spending per acre do not show any predicted indicators and are statistically insignificant. It has been observed that the gross farming income of landless farmers is more than old landholder farmers. As a result, agricultural income as a whole is statistically insignificant. According to the statistics, farmers' awareness of the scheme is quite high at 98.1 per cent. As per survey results, a large percentage of beneficiary farmers are satisfied with the PM-KISAN scheme, whereas the majority of non-beneficiary farmers are neither satisfied nor unsatisfied. Farmers are dissatisfied as the scheme failed to address growing fertiliser, seed, pesticide, and diesel prices. Farmers' ineligibility for the scheme was a major cause of its non-use. Tenant farmers and agricultural labourers who provide their labour to the farmland but do not have registered land ownership are not covered by the scheme.

Farmers' spending patterns are evenly correlated with the goals of PM-KISAN scheme, according to the analysis. Majority of farmers use their benefit money to buy fertilisers, seeds, pesticides, and other household items, as well as to pay for their children's education. Farmers often use the income support to cover the costs of their livestock. The Central government launched the PM-KISAN scheme to provide income support to all eligible landholder farmers and their families. It also tries to meet farmers' financial demands for various inputs to promote proper crop health and yields that are compatible with expected farm income. According to the results of the survey, a large percentage of farmers believe that the scheme helps them enhance their living standards, raise agricultural productivity, and reduce their loan burden. All landholding farmer households are eligible for financial support of Rs. 6,000 per year under the scheme. Farmers suggest that the government have to consider the inflation factor;

otherwise, this scheme will have little impact on farmers' livelihoods, because the benefit amount is not compatible with the prices of seeds, fertilisers, and pesticides. Farmers also believe that the scheme should include tenant farmers and agricultural labourers. The PM-KISAN scheme benefits farmers who are more reliant on agriculture and have limited access to loans. However, as two sides of the same coin, there are

some deterrents like inadequate awareness and information dissemination, transparency and accountability issues, complex documentation processes, exclusion of tenant farmers and labourers, etc., that need immediate attention. The government must recognise tenant farmers, as well as others who work in the agriculture sector but do not benefit from the scheme and also consider the aspect of inflation, which is a cause of concern.

End Notes:

1. Farmers include those who are landowners. Thereby, this scheme does not cover tenant or landless farmers.
2. 'Family' means husband, wife and their minor children, or any two or more of them (The Haryana Ceiling on Land Holding Act, 1972).
3. Saturation status indicates the percentage of beneficiaries added by the state.
4. Tenant farmer is a person who farms rented land. The returns are shared between landlords and tenants in a variety of ways.
5. Categorisation of farmers according to operational holdings by All India Report on Agriculture Census 2015-2016.

Author's Contribution:

Suman Dahiya: Conceptualisation, design, analysis, and editing of the paper.

Priya Kumari: Data collection, analysis & interpretation, and draft preparation of the paper

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