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Impact of Demographic variables on Income Allocation of PM-KISAN beneficiaries: A case study of Kashmir division.

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Abstract

India's Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) plan, which aims to give small and marginal farmers direct income support, has become recognized as a game-changing effort. Despite its broad use and effects on the agricultural environment, there are still few comprehensive studies examining the influence of demographic characteristics on beneficiaries of PM-KISAN's income investment, particularly in different regional contexts. The main focus of this paper is to examine how demographic variables influence on income allocation of PM-KISAN beneficiaries. The study uses a quantitative approach and conducts a survey of 300 PM-KISAN recipients from 3 districts of Kashmir, namely Anantnag, Baramulla and Kupwara which were purposively selected based on having the largest net sown area in hectares under cultivation (Digest of Statistics 2017-2018 for Jammu and Kashmir). Each agricultural block namely Shahabad (Anantnag), Kandi Rafiabad (Baramulla) and Kralpora (Kupwara) chosen randomly from the 3 selected districts. The data is examined using suitable statistical techniques, such as linear regression and correlation analysis. The study reveals a significant negative correlation between education and gender, indicating that female beneficiaries tend to have lower education levels. However, no significant correlation was found between education and land sizes. Due to significant portion of female beneficiaries were widows, who were receiving the scheme benefits after their spouse's death, resulting in the absence of a correlation between gender and land size. Education emerges as a critical factor influencing income allocation decisions, with higher education levels leading to more strategic investments. Similarly, larger landholdings significantly impact income allocation strategies. The findings emphasize the importance of promoting education and financial literacy among farmers to enhance their income allocation practices and foster sustainable agricultural development.

Key words: PM-KISAN, Education, Land size, Gender, Income allocation, credit allocation, Income Investment.

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Introduction

The Government of India launched the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), a prominent welfare initiative, with the primary goal of providing direct income support to small and marginal farmers throughout the nation. In accordance with this program, qualified farmers receive Rs. 6,000 in yearly cash support that is disbursed in three equal installments directly to their bank accounts. Particularly for farmers with small landholdings and financial difficulties, PM-KISAN has been essential in easing rural misery and assisting farmer livelihoods.

The distribution of income among farmers in the agricultural industry is impacted by a number of variables, including education level, gender, and size of the farm. These variables are very important in deciding how farmers allocate their income and choose to invest, spend, and save. Age, education, farm size, household size, loan delay, and bank visits significantly influenced credit allocation (Oboh, V. U., & Ekpebu, I. D.2011).

Gender plays a crucial role in shaping agricultural investment decisions, impacting resource allocation, technology adoption, and overall farm productivity. Gender is one of the factors that affects the income of agricultural technologies (Addison et al. 2023).Women's participation in agriculture is significant, yet they often face gender-specific constraints and biases that affect their access to resources and decision-making power. Women's empowerment was linked to off-farm employment and less farming experience (Maligalig, R., Demont, M. et al., 2019).Female farmers' lower productivity is attributed to inequitable access to essential agricultural inputs like family labor, high-yield crops, pesticides, and fertilizers (Rodgers, Y., & Akram-Lodhi, H. (2019). Men are typically assigned machinery-related tasks, while women are confined to manual tasks which led to lower technical skills (Carnegie, M., Cornish, P. S., Htwe, K. K., & Htwe, N. N. 2020).

The education of PM-KISAN farmers is very important in terms of agricultural development. As farmer’s education levels increase, farmers are more likely to adopt modern agricultural practices, make investments in effective technologies, and diversify their sources of income. Participation in non-farm activities is benefited by household heads' education (Abdulai, A., & CroleRees, A. 2001). Farmers are better able to manage the complexity of modern agriculture, adopt sustainable practices, and maximize resource allocation to increase their overall agricultural output and revenue when they are endowed with knowledge and skills. The size of landholdings has a significant impact on how resources are used and how revenue is distributed in the agricultural sector. Land size is a significant predictor of agricultural production and efficiency and has a significant impact on farmers' and agricultural communities' economic outcomes. This dynamic link between land size and income distribution has been the subject of several studies, which have illuminated its significance for rural development and poverty

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reduction (Jayne, T. S.et al. 2003).Studies have highlighted the disparities in income, land ownership, and technology adoption between male and female farmers, underscoring the importance of addressing gender-related challenges to promote sustainable agricultural development.

Literature Review

This literature review aims to analyze existing research on the connection between education, gender, land size, and income allocation among farmers.

Addison et al. (2023) has analyzed that gender is one of the factors that affects the income of agricultural technologies, data were collected from 917 individual rice farmers in Ghana, and the researcher used a two-step and selection bias model. The results show that the income gap between the two main gender groups widens as a function of gender.

Deegan, A., & Dunne, S. (2022) this study examined social support's stress-buffering effect on farmers' psychological well-being, considering demographic factors. 196 farmers completed an online questionnaire, showing that increased social support was associated with higher psychological well-being after controlling for stress. Family support related to financial and farm-related stress, while friend and significant other support had a greater impact on psychological well-being. Farming organization membership protected against social stress, and working on a specific farm type protected against financial stress. The findings suggest the stress-buffering model's relevance in understanding farmers' stress, emphasizing the need for interventions to enhance social support, reduce stress, and boost well-being.

Hayden, M. T., Mattimoe, R., & Jack, L. (2021) the study looks at the financial and non-financial variables that affect farmers' strategic farm expansion choices. The study uses focus groups after semi-structured interviews with 27 farmers who made these choices. According to the kind of farm expansion choice and farm type, the research reveals a wide variety of contributing factors. These factors are proposed to trigger a sense breaking activity, leading to sense making and ultimately resulting in strategic farm expansion decisions.

Das, R., & Srivastava, R. (2021) explores the relationship between land and income inequality among rural agricultural households in India, using data from a countrywide survey of farmers. The study examines the effects of individual income components and socio-demographic characteristics on total income disparity using a variety of inequality indicators and regression-based analyses. The study concludes developed agricultural sector had the greatest levels of both land and income inequality and also it is highly influenced by land size, followed by household crop productivity. Additionally, there is a negative correlation between wage and livestock income and overall inequality, which offers important information for policy measures to support farmers with limited access to land in developing countries.

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Carnegie, M., Cornish, P. S., Htwe, K. K., & Htwe, N. N. (2020) the study focused on exploring gender norms, roles and gendered decision making. The study found that unconscious bias and adverse gender norms perpetuate strict gender roles in our study sites, hindering women's access to technical learning and influencing agricultural decision-making and resource allocation. Men are typically assigned machinery-related tasks, while women are confined to manual tasks. Women participate in social welfare groups and micro-credit schemes but have limited access to technical information. Male household heads usually gain this exposure. However, engaging women in technical learning led to joint agricultural decision-making and improved knowledge about farm investment, resulting in agronomically sound farm practice changes.

Carranza, M., & Niles, M. T. (2019) examines the relationship between access to financial resources among male and female-headed households, their usage patterns, and its impact on food security. Data from the CGIAR CCAFS program across four sites in Kenya, Uganda, and Senegal are analyzed. While both male and female-headed households attempt to borrow financial resources similarly, female-headed households have limited access to them. Men and male-headed households are more likely to access formal loans, while females predominantly use credit for food, medical expenses, and education. These findings suggest that credit is often utilized by women for immediate needs, potentially influencing smallholder farmers' capacity for climate change adaptation.

Maligalig, R., Demont, M., Umberger, W. J., & Peralta, A. (2019) analyzed intrahousehold decision-making regarding investing in rice varietal trait improvements (VTIs) for better livelihoods in Nueva Ecija, Philippines. Using an experimental approach, couples from rice farming households demonstrated almost equal gender equity in decision-making power (52% men, 48% women). Women's empowerment was linked to off-farm employment and less farming experience. Empowered women focused on future trends and had higher discount factors. This highlights the importance of considering gender roles in technology design and women empowerment programs, recommending education and off-farm employment investments for increased bargaining power.

Rodgers, Y., & Akram-Lodhi, H. (2019) conducted research in five African countries (Ethiopia, Malawi, Rwanda, Uganda, and the United Republic of Tanzania) highlights gender gaps in agricultural productivity. Female farmers' lower productivity is attributed to inequitable access to essential agricultural inputs like family labor, high-yield crops, pesticides, and fertilizers. The policy brief advocates equalizing women's access to these inputs, potentially raising crop production by up to 19% and leading to substantial economic and social gains, including poverty reduction and GDP growth.

Wang, S., Tian, Y., Liu, X., & Foley, M. (2019) to examine farmers' investment choices in food production in Mid-East China, this study uses a multinomial Logit model. The cost of machinery

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and the quantity of farmers were found to be the two main variables influencing their readiness to change investment. It's interesting to note that while many farmers stated a readiness to change their investment, the majority did not do so immediately. Farmers' intents and actions towards investment modification were greatly influenced by their expectations for micro-adaptability, particularly the time needed to change planting areas. The research suggests boosting the use of big data technologies in agriculture to quickly release data and give farmers precise guidance in order to enhance investment decision-making.

Manjunatha, A. V., Anik, A. R., Speelman, S., & Nuppenau, E. A. (2013) analyzed 90 groundwater-irrigated farms in South India to understand how land fragmentation, farm size, land ownership, and crop diversity impact farm profit and efficiency. High inefficiencies exist among the sample farms, with land fragmentation positively and significantly associated with inefficiency, while land ownership and crop diversity are negatively associated. Smaller farms are more efficient in input use, and ownership of a failed well contributes to inefficiency due to increased irrigation costs. Unfragmented, large, owner-operated, and diversified farms exhibit higher profit efficiencies. This knowledge aids policymakers in improving groundwater-irrigated farm efficiency in water scarce regions.

Oboh, V. U., & Ekpebu, I. D. (2011) investigates the impact of socio-economic and demographic factors on farm credit allocation in Benue State, Nigeria. Cross-sectional data from 300 loan beneficiaries were analyzed using t-test and multiple regressions. Results reveal a significant gap ($p < 0.001$) between applied and received loan amounts. Only 56% of loans were invested in farm activities, with 43% diverted to non-farm use. Age, education, farm size, household size, loan delay, and bank visits significantly influenced credit allocation ($p < 0.005$). Recommendations include increasing capital flow to banks, timely disbursal, and farmer training to curb loan diversion.

Jayne, T. S.et al. (2003) examines relationship between income poverty and land distribution in Eastern and Southern African smallholder sectors. It is based on thorough household surveys carried out in five different countries and discovers a concerning decline in farm sizes as well as a sizable percentage of agricultural households that are essentially landless. In especially for farms with fewer than 1.0 hectares of land per person, the study emphasizes the critical link between household income and access to land. It also underlines how the distribution of land has changed over time, becoming more concentrated in line with patterns seen during Asian green revolutions. The findings demonstrate how critical it is to address land distribution trends in African approaches to reducing poverty.

Abdulai, A., & CroleRees, A. (2001) demonstrates that because of their restricted access to finance, poorer households have fewer options to engage in non-cropping activities, which results in less income diversity. Additionally, compared to those nearer to local markets,

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households in rural places participate less in the non-cropping sector. Education of household heads has a beneficial impact on involvement in non-farm activities.

De Janvry, A., & Sadoulet, E. (2001) examines access to off-farm income sources among households in Mexican ejido sector. Education significantly impacts access to higher-paying non agricultural jobs. Indigenous adults face educational disadvantages, leading to reduced access to off-farm employment compared to non-indigenous adults with similar education levels. The availability of off-farm jobs in the region greatly influences participation. Moreover, women are particularly constrained by the distance to urban centers when seeking off-farm employment.

Research Methodology:

Research Design:

The research will adopt a survey method to collect data on education, gender, land size, and income allocation of PM-KISAN beneficiaries. A quantitative approach will be employed to analyze the relationships between the variables in question.

Study Area and Sampling:

The study will be conducted in three districts of Kashmir, namely Anantnag, Baramulla, and Kupwara. Agricultural blocks namely Shahabad (Anantnag), Kandi Rafiabad (Baramulla) and Kralpora (Kupwara) were chosen randomly. The sample size will be 300 farmers, distributed equally among the 3 selected districts.

Sampling Technique:

A multistage sampling technique will be used. In 1st stage 3 districts will be selected purposively. In 2nd stage a random selection of 3 Tehsils will be made from 3 selected districts. In 3rd stage one agriculture block will be selected on randomly from each Tehsil and list of villages will be created. In 4th stage, 10 villages randomly selected from each agricultural block. Finally in fifth stage, required number of respondents will be selected randomly from the list.

Data Collection:

Data will be collected through structured schedule administered to the selected farmers. The schedule will be designed to capture information on demographics, education level, land size, income allocation decisions, and other relevant variables.

Variables:

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Dependent Variable: Income Investment (e.g., proportion of scheme income amount spent on Household consumption, farm business, agricultural activities, household and agricultural and others.)

Independent Variables, Education (e.g., years of formal education), Gender (e.g., male, female)

Land Size (e.g., Canals of agricultural land owned)

Data Analysis:

Quantitative data analysis will be carried out using appropriate statistical software (e.g., SPSS). Descriptive statistics will be used to summarize the characteristics of the sample and the variables of interest. To examine the relationship between education, gender, land size, and income allocation, inferential statistics such as correlation analysis and linear regression analysis will be applied. The significance level will be set at $p < 0.05$.

Limitations:

Some potential limitations of the study may include the limited flexibility, social desirable bias, recall bias, time and resource constraints, and lack of anonymity during the data collection through schedule and the generalizability of findings beyond the selected agricultural blocks.

Objectives

1. To assess the relationship between education, gender, land size, of PM-KISAN beneficiaries.
2. To study the impact of education on investment pattern of PM-KISAN beneficiaries.
3. To study the impact of gender on investment pattern of PM-Kisan beneficiaries.
4. To evaluate the impact of land size on investment pattern of PM-Kisan beneficiaries

Hypothesis:

H0:1 there is no significant relation between education and gender among PM-KISAN beneficiaries.

H0:2 there is no significant impact of education on income investment among PM-KISAN beneficiaries.

H0:3 there is no significant impact of land size on income investment among PM-KISAN

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beneficiaries

Data analysis and discussion

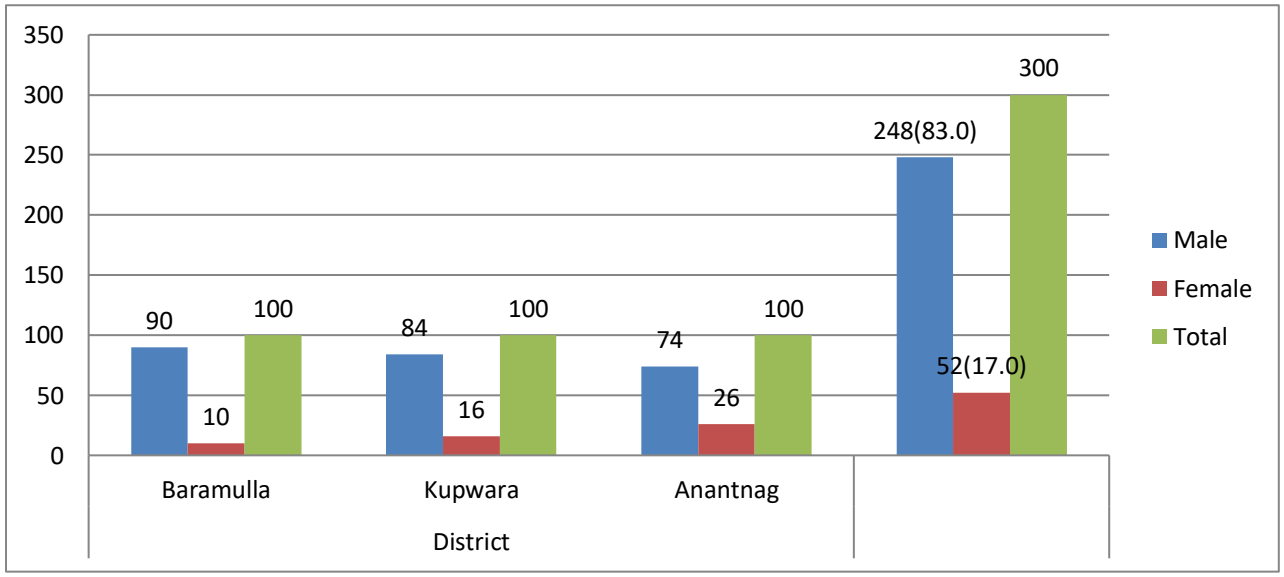
1. Gender of the sample PM-KISAN beneficiaries

Table 1.1 Presentation of gender-wise data classification of PM-KISAN beneficiaries.

Gender	**District**			**Total**
	Baramulla	**Kupwara**	**Anantnag**	
Male	90(90.0%)	84(84.0%)	74(74.0%)	**248(83.0%)**
Female	10(10.0%)	16(16.0%)	26(26.0%)	**52(17.0%)**
Total	**100(100%)**	**100(100%)**	**100(100%)**	**300(100%)**

Figures in parenthesis showing percentage Source: Field survey.

Fig. 1.1: Gender wise distribution of the Sample PK-KISAN beneficiaries



As shown in the above table the largest proportion of men was discovered in Anantnag district (90.0%), followed by Kupwara district (84.0%), and Baramulla (74.0%). The districts with the largest proportions of females were Anantnag (26.0%), Kupwara (16.0%), and Baramulla (10.0%).

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As a result, the majority among the 300 beneficiaries of the PM-KISAN sample are male with 83.0%, with the female category having the lowest concentration of 17.0%. Therefore, we may draw the conclusion that male beneficiaries outnumbered female recipients.

Education of Sample PM-KISAN Beneficiaries

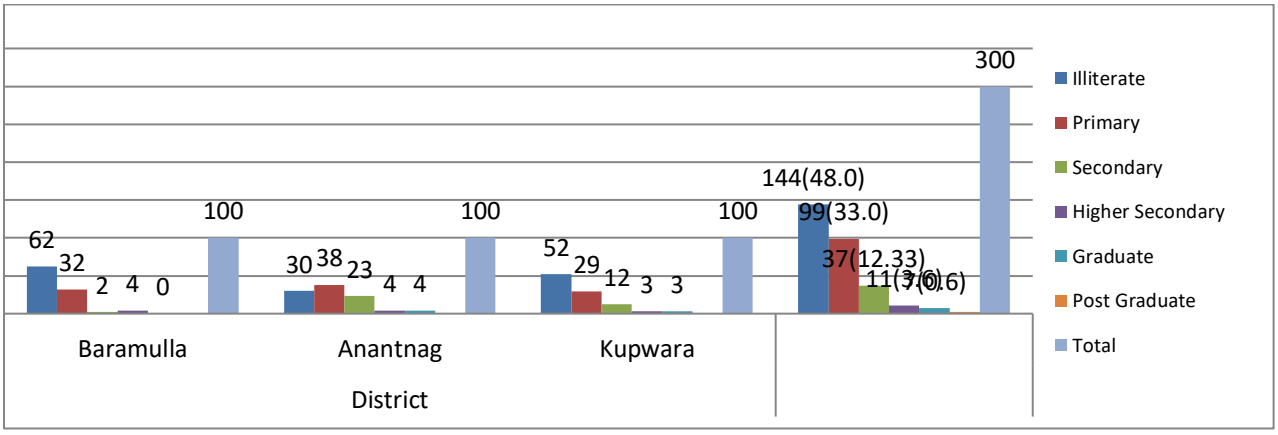
In order to carry out daily tasks, education is crucial. Well-educated people have a greater understanding of how to do a given activity and how to do so cheaply and profitably. The information in the table below displays literacy levels of the beneficiaries PM-KISAN.

Table 1.2: Education of Sample PM-KISAN Beneficiaries

Education	**District**			**Total**
	Baramulla	**Anantnag**	**Kupwara**	
Illiterate	62(62.0)	30(30.0)	52(52.0)	144(48.0)
Primary	32(32.0)	38(38.0)	29(29.0)	99(33.0)
Secondary	2(2.0)	23(23.0)	12(12.0)	37(12.33)
Higher Secondary	4(4.0)	4(4.0)	3(3.00)	11(3.6)
Graduate	0(0.0)	4(4.0)	3(3.0)	7(2.3)
Post Graduate	0(0.0)	1(1.0)	1(1.0)	2(0.6)
Total	**100**	**100**	**100**	**300(100.0)**

Figures in the parenthesis indicate percentage to total Source: Field Source.

Fig. 1.2: Education-Wise distribution of PM-KISAN Beneficiaries



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According to table 5.9, the majority of beneficiaries 48.0% belong to the category of those who are illiterate followed by beneficiaries with only primary education are 33.0% and beneficiaries with higher education is 12.33 %. Only 2.6% of beneficiaries are graduates, and 0.6 % have postgraduate education status. We can conclude that almost half of the beneficiaries' population belongs to illiterate category.

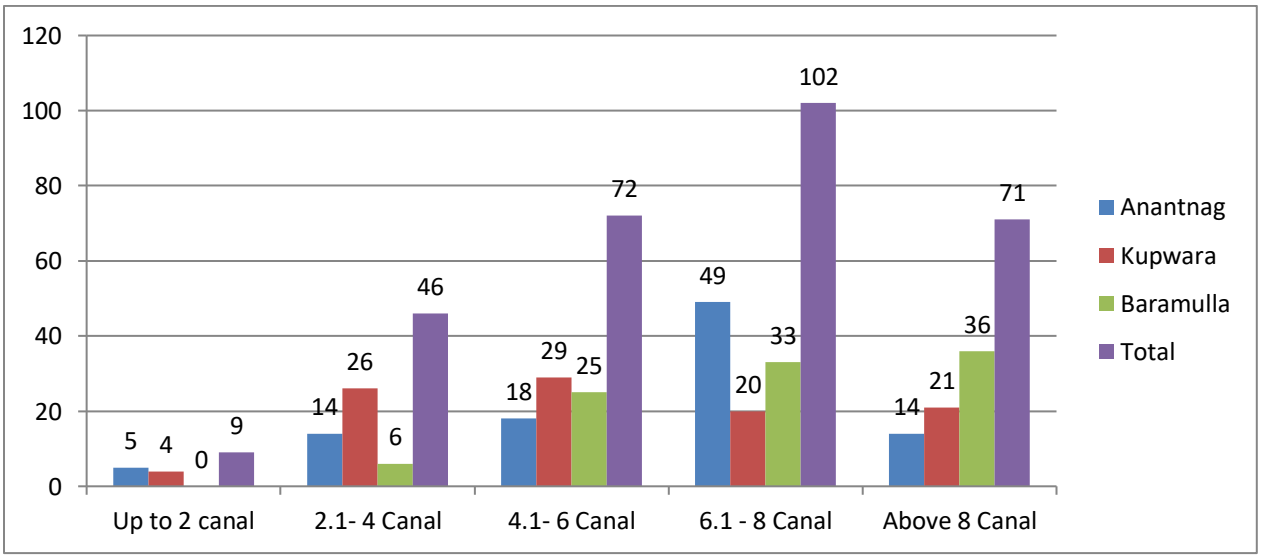
Table 1.3: Showing land Size of PM-KISAN beneficiaries:

Land Size	**Anantnag**	**Kupwara**	**Baramulla**	**Total**
Up to 2 canal	5(5.0)	4(4.0)	0 (0.0)	9 (0.03)
2.1- 4 Canal	14(14.0)	26(26.0)	6(6.0)	46(15.3)
4.1- 6 Canal	18(18.0)	29(29.0)	25(25.0)	72(24.0)
6.1 - 8 Canal	49(49.0)	20(20.0)	33(33.0)	102(34.0)
Above 8 Canal	14(14.0)	21(21.0)	36(36.0)	71(23.6)
Total	**100(100.0)**	**100(100.0)**	**100(100.0)**	**300(100.0)**

Figures in the parenthesis shows percentage

Source: Filed survey

Fig.1.3 Presentation of distribution of land size among PM-KISAN beneficiaries:



From the above table, it is clear that the majority of beneficiaries in the Baramulla district own land size above canals of land, with consists of 36 (12.0) followed by 21(.7) of beneficiaries

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from Kupwara and 14(4.60) from Anantnag district. Beneficiaries who own agricultural land size between 6.0 to 8 canals are 33(11.0) from Baramulla, 20 (.6) from Kupwara and 49(16.3) from Anantnag. Majority among the beneficiaries who own agriculture land size between 4.1 to 6 canals are 29(9.6) from Kupwara, 25(8.3) from Baramulla and 18(6.0) from Anantnag. Only 6(2.0) of the beneficiaries in the Baramulla district own land size between 2.1 to 4 canals, while 14(4.6) beneficiaries from Anantnag and 26(8.66) from Kupwara district. 5(1.66) beneficiaries from Anantnag district own land size up to 2 canals, 4(1.33) from Kupwara district and 0 beneficiary from Baramulla district.

We can conclude beneficiaries from Baramulla district own higher agricultural land size which ranged above 8 canals, followed by Kupwara and Anantnag. Beneficiaries from Anantnag own higher agricultural land size which ranged between 6.1 t 8 canals followed by Baramulla and Kupwara. Beneficiaries from Kupwara own higher agricultural land size which ranged from 4.1 to 6 canals followed by Baramulla and Anantnag district. Beneficiaries' from Kupwara own higher land size which ranged from 2.1 to 4 canals followed by Anantnag and Baramulla district, and finally beneficiaries from Anantnag district own higher land size which ranged up to 2 canals of agricultural land , followed by Kupwara and Baramulla.

Relationship between education, gender, land size, of PM-KISAN beneficiaries.

In this study, we explore the correlations among education, gender, and land size among

PM-KISAN beneficiaries**.**

Correlations

Particulars		Education of the beneficiary	Gender of the person	Land Size
Education of the beneficiary	Pearson Correlation	1	-.259**	.143*
	Sig. (2-tailed)		.000	.013
	N	300	300	300
Gender of the person	Pearson Correlation	-.259**	1	-.082
	Sig. (2-tailed)	.000		.157
	N	300	300	300
Land Size	Pearson Correlation	.143*	-.082	1
	Sig. (2-tailed)	.013	.157	
	N	300	300	300

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From the above correlation table the correlation between the Education and gender of the beneficiary is -.259 which shows moderate negative correlation and the sig. value is .000 which supports the statement the negative relation between the gender and education is not occurred by chance.

The correlation between the education and land size of the beneficiary is .143 which shows moderate positive correlation, the p value is 0.13 which is higher than the significance level 0.05.So we can conclude the correlation between land size and education is not significant. From the above table we can see that the correlation between Gender and land size is -.82 which shows slightly negative and the p-value is .157 which is higher than the sig. value of 0.05 %. So there is not enough evidence to support the relationship, so we can conclude the relation is not significant.

H0:μ1= μ2 There is no significant relation between education and gender among PM-KISAN beneficiaries

Ha: μ1≠ μ2 There is a significant relationship between gender and education among PM-KISAN Beneficiaries.

From the above table results, we accept the Alternate hypothesis and conclude that there is a significant negative correlation between gender and education among PM-KISAN beneficiaries.

Impact of education on income investment among PM-KISAN beneficiaries:

Table 1.4 Income allocation by the PM-KISAN Holder

Education of the beneficiary	Income amount invested					Total
	Household consumption	Farm business	Agricultural activities	Household and agricultural	Other Activities	
Illiterate	76	0	57	11	0	144(48.0)
Primary	21	1	67	10	0	99(33.0)
Secondary	5	1	27	4	0	37(12.33)

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Higher Secondary	2	0	7	2	0	11(3.66)
Graduates	1	0	6	0	0	7(1.33)
Post Graduates	0	0	2	0	0	2(0.6)
Total	105(35.0)	2(0.6)	166(55.33)	27(0.9)	0(0.00)	300(100)

Source: field survey

From the above table it is clear that majority of the beneficiary belongs to illiterate category which consists of 48.0 % followed by 33.0 % of the beneficiaries have primary education, 12.33 %, 3.66, 0.6 have secondary, higher secondary, graduate and post graduate education.

It is reported in the above table that 25.33 % of beneficiaries from the total sample group who have invested the income amount received from the scheme in household sector are illiterate people who have no formal education at all followed by 7.0 % , 1.6 %, 0.3 %, who have primary, secondary, higher secondary and graduate qualification. Only 0.3 % of the beneficiaries who have primary and secondary education have invested in farm business.

Maximum beneficiaries have invested in agricultural activity which consists of 55.33 % followed by 35.0 %, 0.9%, and 0.6% from household, household and agriculture, farm business activities. Majority of beneficiaries who have invested in agricultural activities belongs to primary, illiterate, Secondary, Higher Secondary, Graduates and Post Graduates which consists of 22.33%, 19.0%, 9.0%, 2.0% and 0.6% out of the total sample population. 3.6%, 3.33%, 1.33% and 0.66% of the beneficiaries who are illiterate, primary education, Secondary and Higher Secondary education have invested their income amount in household and agricultural activities.

To see how knowledge effects income allocation we have used linear regression model.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.285	.082	.078	1.46443

a. Predictors: (Constant), Education of the beneficiary

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.710	1	56.710	26.444	.000

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	Residual	639.076	298	2.145		
	Total	695.787	299			

a. Dependent Variable: Income Amount Invested

b. Predictors: (Constant), Education of the beneficiary

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.251	.173		13.009	.000
	Education of the beneficiary	.428	.083	.285	5.142	.000

a. Dependent Variable: Amount Invested

From the above model table R-squared represents the proportion of variance in the dependent variable that is explained by the independent variable in the model. In above case, the R-squared value is 0.82, which means that approximately 82.0 % of the variability in the dependent variable (Income amount invested) is accounted for by the independent variable (education of the beneficiary).

The correlation coefficient, denoted as 'R" is 0.285 which indicated a positive correlation, meaning that as the independent variable increases, the dependent variable tends to increase as well. However the correlation is close to zero, suggesting that the relationship between the variables is not very strong.

The F-value assesses whether the overall model is significant. The f-value is 26.44 which indicates the overall significance of the linear regression model. The p-value is 0.00 which concludes that the regression model is statistically significant.

So, we reject the null hypothesis and accept alternate hypothesis and conclude that there is a significant relationship between gender and education among PM-KISAN beneficiaries.

Impact of land size on investment pattern of PM-Kisan beneficiaries:

We may learn a great deal about how the advantages of the program are used and how it impacts agricultural output and overall rural development by examining the investment choices of farmers with different sized plots of land.

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Table 1.5

Showing Income amount spend by the beneficiaries who own varying land sizes:

Land Size	Amount Invested				Total
	Household consumption	Farm business	Agricultural activities	Household and agricultural	
Up to 2 canal	6(2.0)	0	2(0.6)	1(0.3)	9(3.0)
2.1- 4 Canal	19(6.33)	1(0.3)	14(38.0)	12(4.0)	46(15.33)
4.1- 6 Canal	30(10.0)	1(0.3)	34(11.33)	72.33)	72(24.0)
6.1 - 8 Canal	24(8.0)	0	71(23.66)	7(2.33)	102(34.0)
Above 8 Canal	21(7.0)	0	45(15.0)	5(1.66)	71(23.66)
	100(33.33)	2(0.6)	166(55.33)	32(10.66)	300(100)

From the above table majority of beneficiaries which consists of 55.33 % have invested their income amount in agricultural activities followed by 33.33 %, 10.66%, and 0.6% in Household consumption, Household and agricultural, and farm business.

A statistical method frequently utilized in such investigations is the application of a linear regression model to comprehend the link between land size and income investment. The model statistics is summarized below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.261[a]	.068	.065	1.41895

a. Predictors: (Constant), Land Size

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.681	1	43.681	21.695	.000[b]
	Residual	599.999	298	2.013		

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	Total	643.680	299			

a. Dependent Variable: income amount Invested

b. Predictors: (Constant), Land Size

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.866	.281		6.631	.000
	Land Size	.348	.075	.261	4.658	.000

a. Dependent Variable: Amount Invested

According to the model table, the R-squared value is 0.62, which indicates that the independent variable, beneficiary's land size, explains around 62.0% of the variation in the dependent variable, income amount invested.

As shown by the correlation coefficient, or "R," of 0.261, which indicates a positive correlation, the dependent variable tends to rise as the independent variable does. The correlation, however, is almost nil, indicating a weak link between the variables.

The F-value evaluates the significance of the whole model. The linear regression model's overall significance is indicated by the f-value of 21.695. Since the regression model has a p-value of 0.00, it is concluded that it is statistically significant. So, we conclude by saying that there is a significant impact of land size on income investment among PM-KISAN beneficiaries.

Conclusion:

The research article "Impact of Demographic Variables on Income Allocation of PM-KISAN Beneficiaries: A Case of Kashmir Division" delves into the influence of demographic factors on income allocation patterns among beneficiaries of the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) program in the Kashmir region.

The study reveals a significant negative correlation between education and gender among beneficiaries, indicating that female beneficiaries, who often inherit land through the scheme, have comparatively lower education levels. Despite this, the PM-KISAN initiative has

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empowered female landholders in the Kashmir division, enabling them to make investment decisions and manage their resources.

However, the study finds no significant correlation between land size ownership and education, as well as between gender and land size. Female beneficiaries' land size ownership remains comparatively smaller than that of male beneficiaries in the region.

Education emerges as a critical factor influencing income allocation decisions, with beneficiaries possessing primary to higher secondary education primarily investing their scheme income in agricultural activities. This finding highlights the role of education in fostering sustainable farming practices and enhancing agricultural productivity among PM-KISAN beneficiaries.

The regression analysis reveals that education of the beneficiary has a substantial impact on income allocation among PM-KISAN beneficiaries. The higher the education level, the more informed and strategic the investment decisions tend to be. However, while education is a significant contributing factor, it does not fully account for all the variability in income allocation. Other variables might also influence income investment decisions. These findings highlight the importance of promoting education and financial literacy among farmers to enhance their income-generating capabilities and foster sustainable agricultural development.

Regression analysis regarding land size impact on income allocation shows a significant impact among PM-KISAN beneficiaries. Larger landholdings are associated with different income allocation strategies compared to smaller landholdings. However, while land size is an influential factor, other variables might also contribute to income investment decisions.

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