

International Journal of Agriculture Extension and Social Development

Volume 9; Issue 1; January 2026; Page No. 558-564

Received: 17-10-2025

Accepted: 19-11-2025

Indexed Journal

Peer Reviewed Journal

Bridging knowledge to fields: Impact of Krishi Vigyan Kendra on farm practices, productivity and farmers' income in Uttarakhand

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DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i1h.2974>

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Abstract

This study assesses the impact of KVK Jeolikote on adoption of improved farm management practices, crop productivity, and farm income among beneficiary and non-beneficiary farmers in Nainital district, Uttarakhand. Using regression analysis, the study identifies significant factors influencing technology adoption and productivity, and quantifies the role of KVK interventions. Results indicate that education, farming experience, and participation in KVK programs significantly influence management practices and farm outcomes. Beneficiary farmers exhibited higher productivity and income levels compared to non-beneficiaries, confirming the positive role of KVKs in hill agriculture.

Keywords: Krishi Vigyan Kendras, farm income, on-farm trials, frontline demonstrations, agricultural extension services

Introduction

India is predominantly a rural country, and agriculture forms the backbone of its economy, serving as the main source of livelihood for the rural population. The overall economic growth of the nation largely hinges on the development and performance of agriculture and allied sectors, which contributed 20.19% to the Gross Domestic Product (GDP) in 2020–21 (Ministry of Statistics and Programme Implementation, 2021). In states like Uttarakhand, agriculture remains the primary livelihood activity, especially in the hill regions where over 74% of landholdings are marginal. Most farmers in these areas still practice traditional, low-input subsistence farming. In districts such as Nainital, agricultural productivity and income remain stagnant due to challenges like fragmented landholdings, limited irrigation (only 10.79% of net sown area), and lack of awareness about modern agricultural technologies. Despite the availability of innovative farming solutions developed by research institutions, their adoption among hill farmers remains low. To bridge this gap, Krishi Vigyan Kendras (KVKs) were established as district-level farm science centres to promote improved technologies through Frontline Demonstrations (FLDs), On-Farm Trials (OFTs), and farmer training programs. KVK Jeolikote, located in Nainital district, plays a crucial role in transferring these technologies to the hill farmers of Kumaon region. However, empirical evidence on its

effectiveness in improving farmers' knowledge, practices, productivity, and income is limited. Although anecdotal reports and national assessments suggest positive outcomes from KVKs, region-specific evaluations are lacking—particularly in the unique agro-climatic and socio-economic setting of Uttarakhand. The absence of such data-driven assessments limits the ability to design need-based extension strategies. The study was undertaken with the primary objective of assessing the role of KVK Jeolikote in the transfer and adoption of agricultural technologies at the farm level. It aimed to evaluate how effectively the KVK had contributed to improving farmers' knowledge, management practices, and overall productivity through its various interventions such as training programs, Frontline Demonstrations (FLDs), and On-Farm Trials (OFTs). Another key objective was to identify and analyze the major constraints faced by farmers in the adoption of technologies disseminated by the KVK. These objectives were framed to generate empirical evidence on the impact of KVK activities in the region and to provide insights for strengthening future extension strategies, particularly in the context of hill agriculture in Uttarakhand.

Methodology

The study was conducted in the Nainital district of Uttarakhand, where KVK Jeolikote, affiliated with GB Pant University of Agriculture and Technology, operates. This

KVK was purposively selected to assess its impact on the management practices, crops productivity and enhancement of farmers' income. Both primary and secondary data were utilized. The sample included 60 farmers—30 beneficiaries and 30 non-beneficiaries. Secondary data were sourced from KVK records, government publications, and relevant statistical reports. A two-stage random sampling method was adopted. In the first stage, three adopted villages (Amritpur, Dehra, Amiya) and three non-adopted villages (Nathupur Chamwal, Himmatpur Motahald, Lachampur) were randomly chosen. In the second stage, 10 beneficiary and 10 non-beneficiary farmers were randomly selected from each group of villages. This sampling design allowed for a comparative analysis of the KVK's influence across differently exposed farming communities.

To evaluate the impact of KVK Jeolikote on improved management practices, crop productivity, and farm income, regression analysis was employed. The Ordinary Least Squares (OLS) method was used to estimate the parameters associated with multiple independent variables. OLS is widely recognized for estimating coefficients in linear regression models that relate one or more independent variables to a dependent variable.

The coefficient of multiple determination (R^2) was calculated to assess the overall fit of the regression models. To account for the influence of the number of explanatory variables, the adjusted R^2 was also computed. The significance of the adjusted R^2 was tested using the F-test:

$$F_{(K-1, N-K)} = \frac{\text{Adjusted } R^2}{1 - \text{Adjusted } R^2} \times \frac{N-K}{K-1}$$

Where,

N = number of observations

K = Number of parameters estimated from the model

It was computed with a theoretical F-value at a selected significance level (1% or 5%). The following regression models were used for the examination of impact of KVK Jeolikote on management practices, productivity and farm income.

a. Factors affecting adoption of improved management practices and the impact of KVK

$$MI = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + U$$

Where,

MI = Management Index derived through Principal Component Analysis (PCA) (Appendix-I)

X_1 = Age of respondent (Year)

X_2 = Farming experience (Years)

X_3 = Education (number of schooling years)

X_4 = Dummy variables (1 for beneficiaries, 0 non-beneficiaries)

U = Random term

β_0 = Intercept

$\beta_1, \beta_2, \beta_3$ and β_4 are regression coefficient showing change in the management index because of unit change in corresponding explanatory variable.

b. Factors affecting productivity and contribution of KVK in different crops

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U$$

Where,

Y = Productivity of crop (q/ha)

X_1 = Seed quantity (kg/ha)

X_2 = % area under crop

X_3 = NPK Fertilizer consumption (kg/ha)

X_4 = FYM (q/ha)

X_5 = Dummy variable (1 for beneficiaries, 0 non-beneficiaries)

U = Random term

β_0 = Intercept

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are regression coefficient

c. Factor affecting farm income and contribution of KVK in enhancing farm income

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + U$$

Where,

Y = Farm income (Rs/farm)

X_1 = Area under field crops (ha/farm)

X_2 = Area under vegetable crops (ha/farm)

X_3 = Milch animals (number/farm)

X_4 = Dummy variable for KVK (1 for beneficiaries, 0 for non-beneficiaries)

U = Random term

β_0 = Intercept

$\beta_1, \beta_2, \beta_3$ and β_4 are regression coefficient showing change in the management index as a result of unit change in corresponding explanatory variable

In all these regressions model the coefficient (β 's) were tested for statistical significance by using t-test as -

$$t = \frac{(\beta_i)}{SE(\beta_i)}$$

Where,

β_i = estimated slope coefficient of i^{th} input

SE = standard error of i^{th} input

This comprehensive approach enabled precise estimation of KVK's influence on technology adoption, productivity enhancement, and income generation among farmers in the study area.

Results and Conclusion

Impact of KVK on Management Practices, Productivity, and Farm Income

Regression analysis was employed to analyze factors influencing the adoption of improved management practices, productivity of crops, and farm income, with a focus on quantifying the impact of KVK interventions.

1. Factors Affecting Management Practices and Impact of KVK Cereals

The regression results summarized in Table-1 indicate that among the explanatory variables—farming experience, age of the respondent, education level of the household head, and a dummy variable representing KVK involvement—only education and KVK dummy were statistically significant in influencing the adoption of improved management practices for cereal crops. The dummy variable was assigned a value of 1 for farmers who had received training from KVK (beneficiaries) and 0 for those who had not (non-beneficiaries).

The coefficient for education (0.5313) was significant at the 5% level, suggesting that each additional year of schooling for the household head is associated with a 0.5313% increase in the adoption of improved practices. The coefficient for the KVK dummy variable was 37.3232, highly significant at the 1% level, indicating that beneficiary farmers adopted improved practices by 37.32% more than non-beneficiaries.

Although farming experience and age were positively associated with improved practices, their effects were statistically non-significant. The model accounted for approximately 59.55% of the variation in the dependent variable, with the adjusted R² significant at the 1% level, implying a good fit of the model.

Table 1: Factors affecting improved management of cereal crops

Factors	Regression coefficient
Intercept	36.1641
	(-32.199)
Farming experience (years)	0.5813
	(-0.5536)
Age of respondent (years)	0.2814
	(-0.1701)
Education of head of the family (no. of schooling years)	0.5313**
	(-0.5214)
Dummy for KVK	37.3232*
	(-6.0313)
Adjusted R ²	0.5955*

*Significant at 1% level of significance

**Significant at 5% level of significance

Note: Figures in parentheses indicates standard errors of respective values.

Major Vegetables

Similarly for vegetables the results are presented in Table-2. From the table, it is evident that farming experience and the KVK dummy variable significantly influenced the adoption of improved management practices in vegetable cultivation. Specifically, each additional year of farming experience led to a 1.2826% increase in the adoption of such practices, and this relationship was statistically significant at the 1% level. The KVK dummy variable, with a coefficient of 30.8711, was also highly significant, indicating that farmers who received training from KVK adopted improved management practices 30.87% more than those who did not. This highlights the substantial positive effect of KVK training programs on the management practices of beneficiary farmers. On the other hand, the variables age and education

of the respondents, while positively associated with improved practices, were found to be statistically non-significant. The model explained about 41.22% of the total variation in the adoption of management practices, with the adjusted R² being statistically significant at the 1% level, suggesting a reasonably good fit for the data.

Table 2: Factors affecting improved management practices of vegetable crops

Factors	Regression coefficient
Intercept	15.4593
	(32.0532)
Farming experience (years)	1.2826*
	(0.5511)
Age of respondent (years)	0.0208
	(0.667)
Education (number of schooling years)	0.7419
	(1.1819)
Dummy for KVK	30.8711*
	(6.0041)
Adjusted R ²	0.4122*

* Significant at 1% level of significance

Figures in parentheses shows standard errors of respective values

2. Factors Influencing Crop Productivity and the Impact of KVK Interventions

It is a well-established fact that the adoption of advanced technologies and improved farming practices contributes to enhanced crop productivity. One of the primary objectives of extension services, such as those offered by Krishi Vigyan Kendras (KVKs), is to raise agricultural productivity at the farm level. To evaluate the influence of various factors on crop productivity for different crops and assess the impact of KVK, regression analysis was employed.

2.1 Crop Productivity

The data presented in Table -3 and Figure-1 depict the average yield levels achieved by beneficiary and non-beneficiary farmers. The findings clearly indicate that the average yield of most crops was consistently higher on farms where farmers had availed KVK support and training, compared to those who had not.

Table 3: Average Yield of Various Crops on Sample Farms (in quintals per hectare)

S No.	Particulars	Beneficiary	Non-beneficiary
1	Paddy	36.62	25.56
2	Wheat	31.06	22.13
3	Maize	30.23	26.29
4	Sugarcane	667.51	631.78
5	Okra	68.31	52.87
6	Brinjal	197.43	143.52
7	Cabbage	182.52	132.89
8	Pea	152.63	111.02
9	Potato	197.55	120.65
10	Tomato	218.43	207.41
11	Chilli	69.84	42.07
12	Onion	144.73	107.22
13	Barseem	160.71	153.05
14	Oats	145.91	138.63

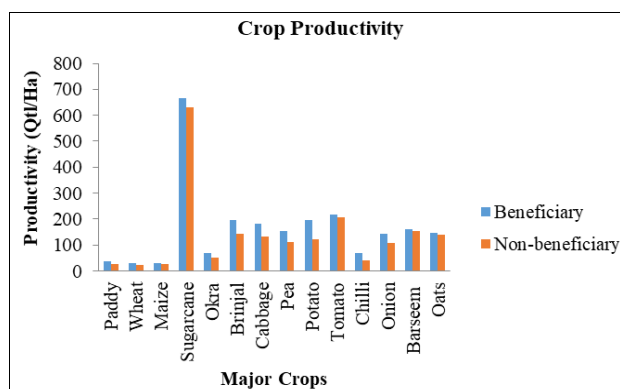


Fig 1: Productivity of different crops on beneficiary and non-beneficiary farms

2.2 Productivity of Cereal Crops

The regression analysis from the Table-4 revealed that in the case of wheat, the area under cultivation, NPK fertilizer use, and participation in KVK training significantly influenced productivity. A 1% increase in the area under wheat led to a 0.2094 q/ha increase in yield, while each additional kilogram per hectare of NPK fertilizer contributed to a 0.0535 q/ha gain. Farmers who had received KVK training

achieved, on average, 9.0937 q/ha higher yields than non-beneficiaries. The model demonstrated a strong fit, explaining approximately 59% of the variation in wheat productivity and was statistically significant at the 1% level. For paddy, seed quantity, FYM application, and the KVK dummy variable emerged as significant factors. A 1 kg/ha increase in seed use resulted in a yield improvement of 0.1368 q/ha, and each additional quintal of FYM increased productivity by 0.0228 q/ha. Beneficiary farmers recorded a yield advantage of 10.3359 q/ha over non-beneficiaries. The model accounted for about 62% of the variation in paddy productivity, with a high level of statistical significance. In maize cultivation, productivity was significantly influenced by NPK fertilizer use and KVK participation. A 1 kg/ha increase in NPK application led to a yield increase of 0.1049 q/ha, while KVK-trained farmers produced 4.0512 q/ha more than their counterparts. The model explained 37% of the variability in maize yield and was significant at the 5% level. Overall, the findings underscore the positive and significant role of KVK interventions in enhancing cereal crop productivity, particularly in wheat and paddy, validating the importance of targeted agricultural extension services.

Table 4: Factors affecting productivity (q/ha) of cereals crops

Factors	Regression coefficients		
	Wheat	Paddy	Maize
Intercept	31.5607 (18.629)	8.889 (14.1073)	35.9044 (12.1042)
Seed quantity (kg/ha)	-0.0248 (0.1223)	0.1368* (0.1219)	0.2511 (0.1573)
Area under crop (%)	0.2094** (0.044)	0.0362 (0.0398)	0.1084 (0.1518)
NPK (kg/ha)	0.0535* (0.0173)	0.0031 (0.014)	0.1049** (0.066)
FYM (q/ha)	-0.0572 (0.0511)	0.0228** (0.0474)	-0.0182 (0.0991)
Dummy for KVK	9.0937* (1.8289)	10.3359* (1.2266)	4.0512** (1.37002)
Adjusted R ²	0.5931*	0.6167*	0.3727**

*Significant at 1% level

**Significant at 5% level

Figures in parentheses shows standard errors of respective values

2.3 Productivity of Vegetable Crops

Regression analysis was conducted to evaluate the factors affecting productivity in major vegetable crops—potato, tomato, cabbage, and okra—and to assess the impact of KVK interventions. The variables considered included seed quantity (kg/ha), percentage area under the crop, NPK fertilizer use (kg/ha), FYM application (q/ha), and a dummy variable for KVK participation. The table-5 shows that in the case of potato, NPK fertilizer use, FYM application, and the KVK dummy were statistically significant. A one kg/ha increase in NPK use resulted in a 0.0618 q/ha rise in yield, while 1 q/ha more FYM contributed 0.0986 q/ha to productivity. KVK beneficiary farmers recorded a yield advantage of 23.36 q/ha. The model explained 50.55% of the variation, significant at the 1% level. For tomato, FYM application and KVK participation were the key determinants of yield. Each 1 q/ha increase in FYM raised productivity by 1.6508 q/ha, and KVK beneficiaries achieved an average yield of 18.01 q/ha more than non-

beneficiaries. The model explained 39.31% of the variation, also significant at the 1% level.

In cabbage, seed quantity, FYM application, and the KVK dummy were found to be significant. A 1 kg/ha increase in seed use raised yield by 0.0331 q/ha, and FYM application improved productivity by 1.3324 q/ha. KVK-trained farmers had a yield advantage of 17.88 q/ha, with the model explaining 44.10% of the variation at the 1% significance level. For okra, only NPK fertilizer use and the KVK dummy were statistically significant. A 1 kg/ha increase in NPK usage resulted in a 0.0307 q/ha gain, while KVK-trained farmers produced 22.25 q/ha more than non-beneficiaries. The model accounted for 53.51% of the variation, significant at the 5% level.

These findings underscore the strong and positive influence of KVK interventions on vegetable crop productivity, particularly through the promotion of balanced fertilizer use and organic inputs such as FYM.

Table 5: Factors affecting productivity (q/ha) of major vegetable crops on sample farms

Factors	Regression coefficient			
	Potato	Tomato	Cabbage	Okra
Intercept	34.3711 (14.0422)	19.6451 (4.0355)	11.8652 (7.2470)	7.9652 (12.3561)
Seed quantity (kg/ha)	-1.1027 (1.9256)	0.0399 (0.0691)	0.0331* (0.1071)	0.1327 (0.3063)
Area under crop (%)	2.2390 (1.0076)	5.3170 (3.1639)	4.2752 (3.9669)	0.6554 (2.1824)
NPK (kg/ha)	0.0618** (0.1315)	0.1139 (0.1278)	-0.2408 (0.1609)	0.0307** (0.0432)
FYM (q/ha)	0.0986* (0.1394)	1.6508** (1.3139)	1.3324* (6.9197)	0.0211 (0.0925)
Dummy for KVK	23.3556* (14.7861)	18.0134* (10.0549)	17.8757* (10.9764)	22.2505* (3.698)
Adjusted R ²	0.5055*	0.3931*	0.4410*	0.5351**

*Significant at 1% level of significance

**Significant at 5% level of significance

Figures in parentheses shows standard errors of respective values

3. Composition of Farm Income and Role of KVK

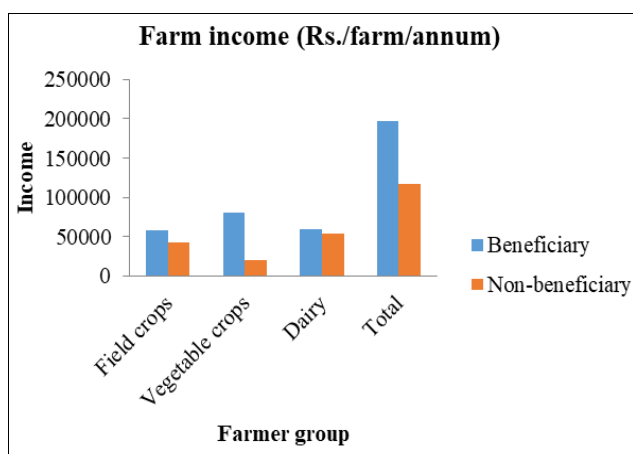
The primary goal of every farmer is to increase income and ensure a stable and sustainable livelihood. In this context, the role of extension services such as Krishi Vigyan Kendras (KVKs) becomes critical in strengthening farm-level income sources.

3.1 Composition of Farm Income

Farm income in the study was classified into three major components: income from field crops, vegetable crops, and dairy (milch animals). As presented in Table-6 and illustrated in Figure-2, it was observed that income from field crops was higher on beneficiary farms (₹58,300/farm) compared to non-beneficiary farms (₹43,066/farm).

Table 6: Composition of farm income on sample farms (Rs./farm/annum)

S No.	Particulars	Beneficiaries	Non-beneficiaries
1	Field crops	58300 (29.47)	43066 (36.74)
2	Vegetable crops	80,166 (40.52)	19700 (16.81)
3	Dairy	59366.67 (30.01)	54433.33 (46.44)
	Total farm income	1,97,833	1,17,199.33

Note: Figure in parentheses shows percent in total of each category**Fig 2:** Farm income on beneficiary and non-beneficiary farms

A major difference was seen in vegetable cultivation, which contributed a substantial 57.89% to the total farm income of beneficiary farmers, in contrast to only 16.81% on non-beneficiary farms. This reflects the significant impact of KVK support in promoting high-value horticulture. On the other hand, dairy income accounted for 46.44% of the income on non-beneficiary farms, compared to 30.01% on beneficiary farms. However, in absolute terms, even dairy income was higher on beneficiary farms by ₹4,933.34 annually.

3.2 Factors Affecting Farm Income and Impact of KVK

Regression results in Table-6 show that all selected variables significantly influenced farm income. An increase of 1 hectare in area under field crops was associated with an income rise of ₹29,904.39, while a 1-hectare increase in vegetable cultivation contributed an additional ₹38,346.89. Moreover, each additional milch animal increased farm income by ₹22,843.57. The KVK dummy variable was highly significant, demonstrating that beneficiary farmers earned ₹54,440 more annually than non-beneficiaries. The model explained 81% of the variation in farm income and was statistically significant at the 1% level, confirming the strong positive impact of KVK interventions on farm-level income generation. These results emphasize the vital role of KVKs in promoting diversified farming, enhancing income through high-value crops, and improving dairy productivity, thereby contributing substantially to the economic well-being of farmers.

Table 7: Factors affecting farm income and impact of KVK

Factors	Regression coefficient
Intercept	66882.094 (10919.024)
Area under field crops (ha)	29904.39** (12871.32)
Area under vegetable crops (ha)	38346.89** (2910.14)
Milch animals (No.)	22843.57* (3960.24)
Dummy for KVK	54440.413* (5215.39)
Adjusted R ²	0.8105*

*Significant at 1% level

**Significant at 5% level

Note: Figures in parentheses indicate standard errors of respective regression coefficients farmers.

Conclusion

The study clearly highlights the significant impact of Krishi Vigyan Kendras (KVKs) interventions on management practices, crops productivity and farm income. The results revealed that KVK beneficiary farmers adopted better management practices across cereal and vegetable crops, resulting in higher productivity and income compared to non-beneficiaries. In cereal crops such as wheat, paddy, and maize, variables like area under cultivation, fertilizer use, and KVK participation had a statistically significant impact on yield. Beneficiaries reported yield gains of 9.09 q/ha in wheat, 10.33 q/ha in paddy, and 4.05 q/ha in maize over non-beneficiaries.

Similarly, in vegetable crops such as potato, tomato, cabbage, and okra, KVK interventions significantly

improved productivity. Yield gains on beneficiary farms ranged from 17.88 q/ha (cabbage) to 23.36 q/ha (potato). The role of farmyard manure and NPK fertilizer was also evident in improving yields, reaffirming earlier findings by researchers such as Lal *et al.* (2013) ^[5], who demonstrated the positive effects of technological interventions on cumin yield, and Chauhan *et al.* (2013) ^[3], who showed increased chickpea productivity through frontline demonstrations.

In terms of income, vegetable crops contributed the highest share (40.52%) to total income on beneficiary farms, while dairy income was more dominant on non-beneficiary farms. Overall, KVK beneficiary farmers earned ₹54,440 more per year than non-beneficiaries, and regression results explained 81% of the variation in farm income, reaffirming the effectiveness of KVK services. These results are consistent with prior studies such as Bairwa *et al.* (2012) ^[1] and Kumar *et al.* (2014) ^[4], which also reported significant yield and income improvements through frontline demonstrations and extension activities.

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Appendix I: Management Indices of cereals and major vegetables computed by using Principal Component Analysis (PCA)

Management Indices								
Non-beneficiary Farmers								
Farmers	Wheat	Paddy	Maize	Potato	Tomato	Cabbage	Brinjal	Okra
F1	37.82	63.56	11.805	57.45	77.28	43.51	32.42	19.42
F2	22.31	13.71	66.27	26.71	67.22	21.83	38.21	51.28
F3	38.582	23.65	49.281	69.12	11.94	15.67	15.16	15.12
F4	23.561	49.57	20.67	33.67	28.74	38.45	56.38	77.43
F5	45.671	34.44	33.24	48.56	48.13	23.58	43.74	45.72
F6	61.256	33.63	49.65	38.28	20.39	26.97	22.79	21.61
F7	55.632	14.93	56.93	71.92	79.58	59.47	33.17	14.38
F8	16.90	31.86	51.71	49.27	44.76	18.65	19.42	69.25
F9	26.115	54.115	39.72	51.95	53.73	39.67	44.19	31.47
F10	19.87	65.39	41.29	27.54	74.62	11.62	21.57	23.75
F11	30.23	11.16	71.56	65.38	26.55		26.78	48.281
F12	10.36	35.82	45.464	43.17	49.97		48.327	57.12
F13	43.92	20.71	21.11	49.32	66.58			
F14	14.65	26.97	15.23	35.21	40.68			
F15	48.67	36.28	17.65	24.34	38.85			
F16	18.71	17.15	27.59		35.67			
F17	49.87	23.66	29.64		71.44			
F18	27.88	51.37	31.29		24.17			
F19	50.98	11.63	12.93		26.87			
F20	73.34	24.73	27.79		48.53			
F21	47.365	39.94	44.83					
F22	28.81	47.22	38.596					
F23	46.78	42.73	56.78					
F24	33.01	22.32	25.91					
F25	67.92	17.29						
F26	66.08	29.91						
F27	74.09	73.58						
F28	51.83	48.62						
F29	28.87	40.32						
F30	39.09	12.22						
Total Farmers	30	30	24	15	20	10	12	12
Beneficiary Farmers								
F1	51.178	74.81	16.73	81.32	76.13	77.82	71.91	75.98
F2	21.73	76.28	44.76	79.15	73.54	80.23	32.76	59.06
F3	55.76	51.45	39.22	29.17	83.22	81.23	20.81	21.69
F4	65.21	44.32	66.04	37.98	69.53	73.54	80.55	41.82

F5	20.97	18.32	59.32	24.56	38.92	64.81	79.44	82.343
F6	24.54	69.42	29.66	61.57	74.28	77.14	57.42	20.99
F7	42.89	39.14	18.19	52.96	27.47	52.83	73.54	79.81
F8	33.56	60.14	38.29	75.91	64.82	86.02	77.49	71.89
F9	19.23	55.91	52.18	32.72	74.23	59.11	44.68	52.67
F10	39.98	81.27	48.16	76.214	55.24	33.98	70.51	81.23
F11	74.91	29.98	22.49	69.47	86.72	78.59	75.98	69.67
F12	22.73	61.88	32.28	26.91	81.29	28.67	81.79	29.98
F13	67.3	59.66	74.33	66.32	63.82	80.27	88.59	66.47
F14	49.43	45.61	37.32	44.78	75.98	62.89	67.48	86.53
F15	82.31	74.51	62.97	57.28	66.24	39.77	76.33	74.02
F16	41.78	22.56	59.45	19.48	35.89	55.85	55.26	55.45
F17	79.82	66.57	59.66	74.23	61.45	86.52	38.53	77.89
F18	31.45	47.91	16.98	81.23	87.55	30.32	84.55	68.47
F19	51.98	28.25	24.88	73.28	59.17	67.91	49.58	76.91
F20	29.323	71.55	18.27	40.84	77.21	67.83	38.332	53.98
F21	58.83	28.83	66.91	73.24	44.65	79.28	80.93	88.23
F22	74.57	70.91	26.34	66.28	57.32	79.18	76.48	74.65
F23	69.43	67.56	42.66	36.22	26.97	68.55	23.53	57.41
F24	70.91	55.81	55.11	21.37	74.45	40.56	81.57	76.67
F25	30.98	29.21	57.67	49.74	41.402	49.14	74.91	74.33
F26	62.83	51.42	61.99	53.14			79.47	24.12
F27	51.94	73.24	64.18	74.54				63.44
F28	27.3	38.44	20.19	61.82				59.25
F29	53.53	45.21	10.89	37.44				
F30	71.01	66.37	55.39	63.24				
Total Farmers	30	30	30	30	25	25	26	28

Adoption Category
Very high (> 75%)
High (50-75%)
Moderate (25-50%)
Low (< 25)