

FINANCIAL INCLUSION OF FARMERS

S. M. Trivedi¹, J. D. Bhatt² and N. M. Thaker³

1 Asso. Professor, PG Institute of Agribusiness Management, Junagadh Agricultural University, Junagadh-362001 India
 2 & 3 Asst. Professor PG Institute of Agribusiness Management, Junagadh Agricultural University, Junagadh-362001 India
 Email : trivedishilpa@jau.in

ABSTRACT

Financial inclusion is a way to promote the objective of inclusive growth through the provision of easy access to financial services among the most disadvantaged sections of society. The PMJDY scheme of 2014 can be seen as the major effort to promote financial inclusion in India. The scheme aims at increased access to basic services like savings, remittance, credit, insurance and pension in an affordable manner. However, Gujarat is one of the low financially included states. So, the present study is carried out to examine the status of financial inclusion of farmers and to identify the factors affecting financial inclusion of farmers. The primary data was collected from 120 farmers and Financial Inclusion Index was calculated to measure the level of financial inclusion. The multinomial logistic regression model was used to identify the factors affecting the financial inclusion of farmers. The results revealed that majority of farmers have medium level of financial inclusion. ATM and cheque/DD, savings bank deposit accounts, short term credit and agriculture insurance are the widely used financial services by the farmers. Age, the distance of bank and landholding are the major predictor for the financial inclusion of farmers.

Keywords : Financial Inclusion, Financial Services, Financial Inclusion Index

INTRODUCTION

The Indian economy witnessed tremendous changes in the past years (Vinaya *et al.*, 2013; Trivedi *et al.*, 2020). The government has been trying hard to make finance accessible to one and all on an equitable basis and has initiated several reforms to accomplish the inclusive growth. The comprehensive development approach was pointed to bridge the crevice between economy and society by coordination the disparity that existed between country and urban, wealthy and destitute and one segment of the economy with the other. Financial inclusion is one way to promote the objective of inclusive growth through the provision of easy access to financial services among the most disadvantaged sections of society. The PMJDY scheme of 2014 can be seen as the major effort to promote financial inclusion in India. The scheme aims at increased access to basic services like savings, remittance, credit, insurance and pension in an affordable manner. However, Gujarat is one of the low financially included states. So, the present study is carried out

to examine the status of financial inclusion of farmers and to identify the factors affecting financial inclusion of farmers.

OBJECTIVE

To know the financial inclusion of farmers in Saurashtra region

METHODOLOGY

The study was confined to the Saurashtra region. Three districts, Junagadh, Gir Somnath, and Porbandar, from Saurashtra Region, were selected using a simple random sampling technique. In the second stage, 40 farmers from each district were selected. Thus the total sample size was 120 farmers. The primary data were collected through the well-prepared questionnaire.

Financial Inclusion Index used by Biju, 2016 was calculated to measure the level of financial inclusion of farmers. The Financial Inclusion Index model is as follows:

Where,

$$FII = \sum_{i=1}^n a_i w_i = a_1 w_1 + a_2 w_2 + a_3 w_3 + a_4 w_4 + a_5 w_5 \dots \dots \dots + a_{12} w_{12}$$

a_i = Various Financial Inclusion Indicators

w_i = Corresponding Weight

The financial inclusion indicators and their respective weight are presented in Table 1.

Table 1 : Indicators and weights of financial inclusion index

Indicators	Components		Weight		Total
Transaction Services	a1	ATM	W ₁	5	25
	a2	Mobile Banking	W ₂	5	
	a3	Internet Banking	W ₃	5	
	a4	Cheque/DD	W ₄	5	
	a5	Pension	W ₅	5	
Formal Saving/Deposit	a6	Saving Bank Deposit	W ₆	10	25
	a7	Fixed Deposit/Recurring Deposit	W ₇	15	
Formal Credit/Loan	a8	Short Term Credit	W ₈	10	30
	a9	Medium-Term Credit	W ₉	10	
	a10	Long Term Credit	W ₁₀	10	
Insurance	a11	Personal Insurance	W ₁₁	10	20
	a12	Agricultural Insurance	W ₁₂	10	
			Total	100	100

The Financial Inclusion Index (FII) may take relative values between 0 and 100; zero indicates the lowest financial inclusion (complete financial exclusion) while 100 indicates complete financial inclusion. Based on the value of the Financial Inclusion Index, three financial inclusion levels are identified, i.e., low inclusion (FII<30), medium inclusion (FII: 30-60) and high inclusion (FII>60) (Biju, 2016).

The multinomial logistic regression model was used to identify the factors affecting the financial inclusion of farmers. As there are several independent variables or predictors used in this study and as the dependent variable

(Financial inclusion Index) or the outcome is more than two (low inclusion, medium inclusion, and high inclusion) the best fitting model in this situation is the multinomial logistic regression model. The first category of the dependent variable (low inclusion) is taken as the reference category. So, the ‘medium inclusion’ category of the dependent variable is regressed by taking ‘low inclusion’ as the reference category. Secondly, the ‘high inclusion’ category of the dependent variable is regressed by taking ‘low inclusion’ itself as the reference category. Thus, the multinomial logistic regression used in the present study takes the following two forms:

$$1. \text{Log} \frac{P(Y_2)}{P(Y_1)} = \beta_0 + \beta_1 X_1 + \dots + \beta_9 X_9$$

$$2. \text{Log} \frac{P(Y_3)}{P(Y_1)} = \beta_0 + \beta_1 X_1 + \dots + \beta_9 X_9$$

Where,

Y₁, Y₂, Y₃ = Dependent variables (Low, Medium and High Financial Inclusion Index)

β₀ = Constant

β₁, ... β₉ = Multinomial logistic regression coefficient of the variables

X₁, X₂, ... X₉ = Independent variables

Table 2 provides dependent and explanatory variables along with their coding.

Table 2 : Dependent and explanatory variables along with their coding

Sr. No.	Variable	Units of Measurement	Code	Category	Value
1	Financial Inclusion	Number	Y	Low	1
				Medium	2
				High	3
2	Gender	Dummy	X ₁	Female	1
				Male	2
3	Distance	Kilometers	X ₂	0-14	1
				14-28	2
				28-42	3
4	Age	Years	X ₃	Young	1
				Middle	2
				Old	3
5	Marital Status	Dummy	X ₄	Unmarried	1
				Married	2
6	Size of Landholding	Hectares	X ₅	Marginal	1
				Small	2
				Semi medium	3
				Medium	4
				Large	5
7	Years of Education	Years	X ₆	Illiterate	1
				Up to Primary	2
				Up to Secondary	3
				Graduate	4
				Above graduate	5
8	Caste	Dummy	X ₇	OBC	1
				SC	2
				ST	3
				General	4
9	Household Size	Number	X ₈	2-8	1
				8-14	2
				14-20	3
10	Years of Banking	Years	X ₉	1-12	1
				12-24	2
				24-36	3

RESULTS AND DISCUSSION

Socio-economic profile of farmers

The sample profile of respondent farmers is presented in Table 3. It reveals that the age of farmers was between 19 and 75 years. It is seen from the table that the maximum proportion (36.67 %) comes under the Middle age group, i.e. 36 to 50 years, followed by the old age group, above 50 years, (34.17 %) and young age group, up to 35 years (22.50%). The majority of the respondents were male (97.50 %) and only 3 women farmers (2.50 %) were there among the respondents. The marital status of the farmers shows that 95 percent were married and only 5 percent were unmarried among the respondents. The details regarding the category of selected respondents revealed that overall 71.67 percent of the farmers belong to Other Backward Castes (OBCs)

and the remaining 28.33 percent belong to general castes. The data also revealed that the literacy level in the selected districts of the study was around 87 percent. Regarding the level of education, the maximum No. of farmers (42.50 %) had formal education up to the secondary level and around 15 percent had higher education. Agriculture is the major occupation of farmers (87.50 %) followed by the agricultural labourer and tenant farmers (7.50 %) and service with the shares of 5 percent. The majority (84.17 %) of farmers' family size is 2-8 members, followed by 8 to 14 members (14.17 %) and 14 to 20 members (1.67 %). The percentage of farmers living in joint families is higher than the nucleus family in all the districts. Overall, 78 percent of the farmers live in a joint family and only 20 percent of respondents live in the nucleus family. It is seen from the table that the maximum proportion (35 %) were semi-medium farmers, followed

by medium farmers (25.83 %), small farmers (24.17 %), marginal farmers 12.50 %) and large farmers (2.50 %). Years of banking revealed that farmers are involved in banking from 1-35 years with an average of 15.25 years. The majority (46.67 %) of farmers are involved from 12-24 years, followed by 1-12 years (36.67 %) and 16.17 % involved for more than

24 years. The overall distance of the bank branch from the residence of farmer respondents is from 0 to 40 km. with an average of 8.12 km. The majority (70 %) of farmers are residing within 14 km., followed by 14-28 km (28.33 %) and only 1.67 % reside more than 28 km. away from the nearest bank branch.

Table 3 Socio-Economic profile of farmers in saurashtra region

(n=120)

Sr. No.	Indicator	Junagadh		Gir Somnath		Porbandar		All	
		No.	%	No.	%	No.	%	No.	%
1	Age of the farmers								
a	Young age - Up to 35 years	10	25.00	14	35.00	11	27.50	35	29.17
b	Middle age - 36 to 50 years	13	32.50	16	40.00	15	37.50	44	36.67
c	Old age - above 50 years	17	42.50	10	25.00	14	35.00	41	34.17
2	Gender								
a	Male	19	100.00	75	96.15	23	100.00	117	97.50
b	Female	0	0.00	03	3.85	0	0.00	03	02.50
3	Marital status								
a	Married	37	92.50	38	95.00	39	97.50	114	95.00
b	Unmarried	03	07.50	02	05.00	01	02.50	06	05.00
4	Category								
a	General	34	85.00	0	0.00	0	0.00	34	28.33
b	OBCs	06	15.00	40	100.00	40	100.00	86	71.67
5	Education								
a	Illiterate	08	20.00	03	07.50	04	10.00	15	12.50
b	Up to Primary	11	27.50	06	15.00	17	42.50	34	28.33
c	Up to Secondary	14	0	21	52.50	16	40.00	51	42.50
d	Graduate	05	12.50	07	17.50	01	02.50	13	10.83
e	Above graduate	02	05.00	03	07.50	02	05.00	07	05.83
6	Major occupation								
a	Labourer/Tenant farmers	08	42.11	01	1.28	0	0.00	09	7.50
b	Agriculture	10	52.63	74	94.87	21	91.30	105	87.50
c	Service	01	05.26	03	03.85	02	08.70	06	05.00
7	Size of family								
a	2 - 8 number	32	80.00	29	72.50	40	100.00	101	84.17
b	8 - 14 number	08	20.00	09	22.50	0	0.00	17	14.17
c	14 - 20 number	0	0.00	02	05.00	0	0.00	02	01.67
8	Type of family								
a	Joint family	32	80.00	27	67.50	37	92.50	96	80.00
b	Nucleolus family	08	20.00	13	32.50	03	07.50	24	20.00
9	Years of banking								
a	1 - 12 years	14	35.00	16	40.00	14	35.00	44	36.67
b	12 - 24 years	23	57.50	12	30.00	21	52.50	56	46.67
c	24 - 36 years	03	07.50	12	30.00	05	12.50	20	16.67
10	Size of landholding								
a	Marginal (<1 ha)	04	10.00	05	12.50	06	15.00	15	12.50
b	Small (1-2 ha)	11	27.50	13	32.50	05	12.50	29	24.17
c	Semi Medium (2-4 ha)	18	45.00	13	32.50	11	27.50	42	35.00

Sr. No.	Indicator	Junagadh		Gir Somnath		Porbandar		All	
		No.	%	No.	%	No.	%	No.	%
d	Medium (4-10 ha)	06	15.00	07	17.50	18	45.00	31	25.83
e	Large (>10 ha)	01	02.50	02	05.00	0	0.00	03	2.50
11	Distance from home								
a	0 - 14 km	34	85.00	15	37.50	35	87.50	84	70.00
b	14 - 28 km	04	10.00	25	62.50	05	12.50	34	28.33
c	28 - 42 km	02	05.00	0	0.00	0	0.00	02	01.67

Status of financial inclusion of farmers

Table 4 shows the status of the financial inclusion of the farmers. The data reveals that among the transaction banking services, ATM is the most widely used mode of transacting banking services. Majority of farmers (76.67 %) used this mode of transaction followed by cheque/DD (70.83 %), KCC (45 %), mobile banking (23.33 %), internet banking (16.67 %). Only 2.57 percent of farmers utilized pension

services through the Bank. Most of the farmers (99.17%) having savings bank deposit accounts whereas, only 25.83 percent of farmers having fixed deposits or recurring deposit accounts. The majority of the farmers (72.50 %) have availed short term credit followed by medium-term credit (23.33 %) and long term credit (12.50 %). The majority of the farmers (62.50 %) have availed agriculture insurance whereas only 36.67 percent of farmers availed personal insurance.

Table 4 : Status of financial inclusion of farmers in Saurashtra region

(n=120)

Sr. No.	Financial inclusion	Users		Non Users		All	
		No.	%	No.	%	No.	%
1	Transaction banking services						
1	ATM	92	76.67	28	23.33	120	100
a	Mobile banking	28	23.33	92	76.67	120	100
b	Internet banking	20	16.67	100	83.33	120	100
c	Cheque/DD	85	70.83	35	29.17	120	100
d	Pension through bank	03	02.50	117	97.50	120	100
e	KCC	54	45.00	66	55.00	120	100
2	Formal saving						
a	Saving deposit	119	99.17	01	0.83	120	100
b	Fixed/Recurring deposit	31	25.83	89	74.17	120	100
3	Formal credit						
a	Short term credit	87	72.50	33	27.50	120	100
b	Medium-term credit	28	23.33	92	76.67	120	100
c	Long term credit	15	12.50	105	87.50	120	100
4	Insurance coverage						
a	Personal	44	36.67	76	63.33	120	100
b	Agricultural	75	62.50	45	37.50	120	100

Variation in the Financial Inclusion of farmers is presented in Table 5. The table reveals that low inclusion is more prevalent among the young farmers (31.43 %), unmarried (66.67 %), OBC category (16.24 %), agricultural labourer/tenant farmers (88.89 %), holds land less than 1 ha. (46.67 %), illiterate (20 %), residing more than 28 km away from the bank (50 %) and involved in banking for less than 12 years (34.09 %). Across the districts, low inclusion is more prevalent among the farmers of Gir Somnath district (20 %).

Medium inclusion is more prevalent among the farmers who are of middle age (27.27 %), married (68.14 %), general category (100 %), the main occupation is agriculture (70.48 %), and holds land more than 10 ha. (100 %), illiterate (80 %), residing within 14 km. of the bank (67.86 %) and involved in banking for 12-24 years (76.79 %). Across the districts, medium inclusion is more prevalent among the farmers of the Junagadh district (77.50 %).

High inclusion is more prevalent among the farmers who are old (85.37 %), married (18.58 %), OBC category

(19.66 %), the main occupation is service (33.33 %), holds land more 4-10 ha. (25.81 %), have formal education above graduation (42.86 %), residing within 14-28 km. of the bank (26.47 %) and involved in banking for more than 24 years (30 %). Across the districts, high inclusion is more prevalent

among the farmers of Gir Somnath district (30 %).

At an aggregate level, the majority of farmers (65 %) have medium inclusion, followed by high inclusion (19.17 %) and low inclusion (15.83 %).

Table 5 : Variation in financial inclusion of farmers in Saurashtra region

Sr. No.	Indicator	Low		Medium		High		All	
		No.	%	No.	%	No.	%	No.	%
1	Age								
a	Young age - Up to 35 years	11	31.43	18	51.43	06	17.14	35	29.17
b	Middle age - 36 to 50 years	07	15.91	25	56.82	12	27.27	44	36.67
c	Old age - Above 50 years	01	02.44	35	85.37	05	12.20	41	34.17
2	Marital status								
a	Married	15	13.27	77	68.14	21	18.58	113	94.17
b	Unmarried	04	66.67	01	16.67	01	16.67	06	05.00
c	Category								
d	General	0	0.00	03	100.00	0	0.00	03	02.50
e	OBCs	19	16.24	75	64.10	23	19.66	117	97.50
3	Education								
a	Illiterate	03	20.00	12	80.00	0	0.00	15	12.50
b	Up to Primary	06	17.65	22	64.71	06	17.65	34	28.33
c	Up to Secondary	07	13.73	32	62.75	12	23.53	51	42.50
d	Graduate	02	15.38	09	69.23	02	15.38	13	10.83
e	Above Graduate	01	14.29	03	42.86	03	42.86	07	05.83
4	Occupation								
a	Agri. Labourer/Tenant farmer	8	88.89	01	11.11	0	0.00	09	07.50
b	Agriculture	10	09.52	74	70.48	21	20.00	105	87.50
c	Service	1	16.67	03	50.00	02	33.33	06	05.00
5	Size of landholding								
a	Marginal (<1 ha)	07	46.67	07	46.67	01	06.67	15	12.50
b	Small (1-2 ha)	04	13.79	20	68.97	05	17.24	29	24.17
c	Semi Medium (2-4 ha)	07	16.67	26	61.90	09	21.43	42	35.00
d	Medium (4-10 ha)	01	03.23	22	70.97	08	25.81	31	25.83
e	Large (>10 ha)	0	0.00	03	100.00	0	0.00	03	02.50
6	Years of Banking								
a	1 to 12 years	15	34.09	21	47.73	08	18.18	44	36.67
b	12 to 24 years	04	07.14	43	76.79	09	16.07	56	46.67
c	24 to 36 years	0	0.00	14	70.00	06	30.00	20	16.67
7	Distance From Home								
a	0 to 14 km	13	15.48	57	67.86	14	16.67	84	70.00
b	14 to 28 km	05	14.71	20	58.82	09	26.47	34	28.33
c	28 to 42 km	01	50.00	01	50.00	0	0.00	02	01.67
8	District								
a	Junagadh	04	10.00	31	77.50	05	12.50	40	33.33
b	Gir Somnath	08	20.00	20	50.00	12	30.00	40	33.33
c	Porbandar	07	17.50	27	67.50	06	15.00	40	33.33
Total		19	15.83	78	65.00	23	19.17	120	100

Factors affecting financial inclusion of farmers

High and medium financial inclusion of farmers is compared against low inclusion and is presented in Table 6. For the model (38, $N = 120$) = 92.574, Nagelkerke $R^2 = .647$, $p < .001$ which indicates towards a good model fit. The first set of coefficient represents the comparison between the farmers having medium financial inclusion and those having low financial inclusion while the second set of coefficient represents the comparison between the farmers having high financial inclusion and those having low financial inclusion.

The result reveals that gender, marital status, education, caste, household size, and y for both sets of coefficients are not statistically significant.

Young age ($b = -3.648$, $p < 0.05$), and middle age ($b = -3.551$, $p < 0.05$) were significant predictors that differentiate between category 2 (farmers having medium financial inclusion) and category 1 (farmers having low financial inclusion).

Distance of bank up to 14 km. from the farmers home ($b = 88.091$, $p < 0.05$), marginal farmers ($b = 15.811$, $p < 0.05$), small farmers ($b = 19.394$, $p < 0.05$) and semi-medium farmers ($b = 18.456$, $p < 0.05$) were significant predictors that differentiate between category 3 (farmers having high financial inclusion) and category 1 (farmers having low financial inclusion).

Two age categories, young age, and middle age, significantly differentiate between category-1 (low financial inclusion) and category-2 (medium financial inclusion). The coefficient of young age and medium age farmers are negatively and significantly associated with the level of financial inclusion which implies that the probability of medium financial inclusion is lower for the farmers who are up to fifty years. In other words, the probability of medium financial inclusion is higher for the farmers who are above fifty years.

The distance of bank from farmers' home category, 0-14 km., significantly differentiate between category-1 (low financial inclusion) and category-3 (high financial inclusion). The coefficient of the distance of banks from farmers' homes is positively and significantly associated with the level of financial inclusion which implies that the probability of high financial inclusion is higher for the farmers who are residing within the 14 km. of the bank branch.

Three landholding categories, marginal, small and semi-medium, significantly differentiate between category-1 (low financial inclusion) and category-3 (high financial inclusion). The coefficient of marginal, small and semi-medium farmers is positively and significantly associated with the level of financial inclusion which implies that the probability of high financial inclusion is higher for the farmers who are holding farmland up to four ha.

Table 6 : Factors affecting financial inclusion of farmers in Saurashtra region

MLR Category	Financial Inclusion	B	Std. Error	Wald	df	Sig.	Exp(B)
Medium Inclusion (FII: 30-60) with reference category Low inclusion (FII: <30)	Intercept						
	[Age=1.00]	-3.648	2.074	3.093	1	.079*	.026
	[Age=2.00]	-3.551	1.847	3.698	1	.054*	.029
	[Age=3.00]	0	.	.	0	.	.
High Inclusion (FII:>60) with reference category Low inclusion (FII: <30)	Intercept	-23.504	6494.152	.000	1	.997	
	[Distance=1.00]	88.091	1.287	4.686E3	1	.000**	1.810E38
	[Distance=2.00]	87.540	.000	.	1	.	1.043E38
	[Distance=3.00]	0	.	.	0	.	.
	[Landholding=1.00]	15.811	2.193	51.987	1	.000**	7.357E6
	[Landholding=2.00]	19.394	1.838	111.278	1	.000**	2.646E8
	[Landholding=3.00]	18.456	1.939	90.631	1	.000**	1.036E8
	[Landholding=4.00]	20.927	.000	.	1	.	1.226E9
[Landholding=5.00]	0	.	.	0	.	.	
The reference category is: Low Inclusion; Number of observation = 120; Wald $\chi^2 = 92.574$; Prob. $\chi^2 = 0.0000$; Pseudo $R^2 = 0.647$; * Significant at 10 %; ** Significant at 1 %							

Table 7 : Classification summary

Observed	Predicted			
	Low	Medium	High	Percent Correct
Low	15	04	0	78.9%
Medium	04	71	03	91.0%
High	0	17	06	26.1%
Overall Percentage	15.8%	76.7%	7.5%	76.7%

The Table 7 shows the classification of actual and predicted outcomes of the dependent variable. The model correctly classifies 76.7 percent of the cases [(15+71+6)/120] for the given set of explanatory variables used in the model.

CONCLUSION

The majority of the farmers have medium level of financial inclusion. ATM and cheque/DD, savings bank deposit accounts, short term credit and agriculture insurance are the widely used financial services by the farmers. Age, the distance of bank and landholding are the major predictor for the financial inclusion of farmers.

REFERENCES

Biju, J. 2016. Financial inclusion of the small and marginal farmers by the banking sector in Kerala. Ph.D. Thesis (Unpublished), School of Management Studies, Cochin University of Science and Technology,

Kochi.

Demirguc-Kunt, A. and Klapper, L. 2012. Measuring Financial Inclusion: The Global Findex Database. Policy Research Working Paper No. 6025. World Bank, Washington, DC. Available at <https://openknowledge.worldbank.org/handle/10986/6042> accessed on 21/02/2019.

Sahoo, A. K.; Pradhan, B. B. and Sahu, N. C. 2017. Determinants of Financial Inclusion in Tribal Districts of Odisha: An Empirical Investigation. *Social Change*. 47(1): 45-64.

Trivedi, S. M., Bhatt, J. D. and Bharodia, C. R. (2020) Social and economic status of women vegetable vendors. *Guj. J. Ext. Edu.* 31(2):118-122.

Vinaya Kumar, H. M, Mahatab Ali, K. M. and Sujay Kumar, S. (2013). Personal and socio-psychological characteristics of the Beneficiary farmers of Community Based Tank Management Project and their relationship with socioeconomic status. *International Journal of Advanced Biological Research*. 3(2): 184-187.

Yadav, P. and Sharma, A. K. 2018. An Investigation into Factors Affecting Access to Financial Services in Farmers’ Suicide Prone Bundelkhand Region of India. *Indian Journal of Finance*. 12 (6): 46-62.

Received : August 2021 : Accepted : November 2021