

CHAPTER - IV

RESULTS AND DISCUSSIONS

The results of the study with respect to empowerment of tribal respondents through financial inclusion are presented under the following sections:

4.1 Demographic and Socio-Economic Profile of the Tribal Respondents

4.2 Awareness on Financial Services among Tribal Respondents

4.3 Access to Financial Inclusion Activities among Tribal Respondents

4.4 Benefits Derived through Financial Inclusion by the Tribal Respondents

4.5 Effect of Financial Inclusion among Tribal Respondents

4.6 Problems Faced by the Select Tribal Respondents

4.7 Economic Independence, Social Participation and Financial Decision Making of the Tribal Respondents

4.8 Determinants of the Economic, Social, and Financial Empowerment of Select Tribal Respondents through Financial Inclusion

4.1 Demographic and Socio-Economic Profile of the Tribal Respondents

Socio-economic profile provides a clear outlook on the nature of population participated in a survey, as the information supplied by them influences the study findings and conclusion drawn by the researcher (Shipra, 2022). Demographic variables helps to understand the ground reality of the tribal respondents in the study. Demographic factors pave the foundation for the ensuing research.

In this section, a brief outlook on the socio-economic profile of the sample tribal respondents currently living across four regional blocks of the Nilgiris district belonging to the tribal ambient community representing equal proportion in the sample are presented in Table 4.1 and Figure 4.1

Table 4.1 Demographic and Socio-Economic Profile of the Tribal Respondents

Variables	Categories	No. of Respondents (n=420)	Percentage (%)
Gender	Male	227	54.05
	Female	193	45.95
Age (in years)	Less than 25	50	11.90
	26-30	33	7.86
	31-35	41	9.76
	36-40	106	25.24
	41-45	49	11.67
	46-50	75	17.86
	51 and Above	66	15.71

Variables	Categories	No. of Respondents (n=420)	Percentage (%)
Education Qualification	Illiterate	140	33.33
	School	197	46.90
	Diploma	16	3.82
	Graduate	50	11.90
	Post Graduate	8	1.90
	Professional	9	2.15
Occupation	Government Employment	8	1.90
	Metal Work	25	5.95
	Collection of Forest Products	43	10.24
	Home Maker	8	1.90
	Farmer	137	32.62
	Agricultural Labour	99	23.57
	Self-Employment	24	5.72
	Others	76	18.10
Marital Status	Married	322	76.67
	Unmarried	74	17.62
	Widow	24	5.71
Family Type	Joint Family	188	44.76
	Nuclear Family	232	55.24
Number of Members in the Family	Up to 2	49	11.67
	2- 4	165	39.29
	4-6	141	33.57
	More than 6	65	15.48
Number of Earning Members in the Family	One	142	33.81
	Two	181	43.10
	Three	72	17.14
	More than Four	25	5.95
Monthly Income(in₹)	Upto 5000	56	7.14
	5001-10000	118	28.09
	10001-20000	161	38.33
	20001 and above	85	20.23
Regional Location of the study area (meters from sea level)	Panthalur (1100 meters)	139	33.10
	Gudalur (1100 meters)	85	20.24
	Udhagamandalam (2240 meters)	78	18.57
	Kotagiri (1950 meters)	81	19.29
	Coonoor (1850 meters)	30	7.14
	Kundah (1950 meters)	7	1.67
Community	Irular	87	20.71
	Kattunayakan	54	12.85
	Kota	74	17.61
	Korumba	66	15.71
	Paniya	72	17.14
	Toda	67	15.95

Source: Primary Data

Table 4.1 exhibit that 54.05 percent of the tribal respondents are male and 45.95 percent are female. Age of the tribal respondents shows that 25.24 percent are under the age group of 36-40 years, 17.86 percent of the respondents are in the age group of 46-50 years, 15.71 percent of the respondents are under the age group of 51 years and above, 11.90 percent of the respondents are under the age of less than 25 years , 11.67 percent of the tribal respondents are under the age group of 41-45 years, Nine percent of the tribal respondents belongs to the age of 31-35 years and only eight percent of the respondents are under the age of 26-30 years.

With regard to educational status of the tribal respondents, 46.90 percent of the respondents have completed their school level education and 33.33 percent of the tribal respondents are illiterate, 11.90 percent of the tribal respondents are graduates, four percent of tribal respondents have studied diploma, only two percent of the tribal respondents are professionals and the remaining two percent of the respondents are post graduates.

With regard to occupation of the tribal respondents, 32.62 percent of the sample respondents are farmers, 23.57 percent are agricultural labourers, 18.10 percent of the respondents are engaged in miscellaneous works.10.24 percent of tribal respondents are involved in collection of forest products, eight percent of tribal respondents are Government employees, six percent are doing metal works, six percent are self-employed and only two percent of the respondents are homemaker. It is also observed that most of the tribal respondents are farmers and engaged in agricultural activities for their livelihood. It is revealed that illiteracy is major reason hindering financial inclusion among tribal respondents.

With regard to marital status of the tribal respondents, majority of the tribal respondents are married (76.67 percent), 17.62 percent are unmarried and remaining six percent of them are widow. It is found that 55.24 percent of the tribal respondents are in nuclear family and 44.76 percent of are in joint family. Most of the respondents (39.29 percent) belong to the family comprising of two to four members. 33.57 percent of the tribal respondents have family members are up to four to six members. The percentage of tribal respondent's families that includes six and more members accounted to 15.48 percent. `Only 11.67 percent of the tribal respondents have two family members.

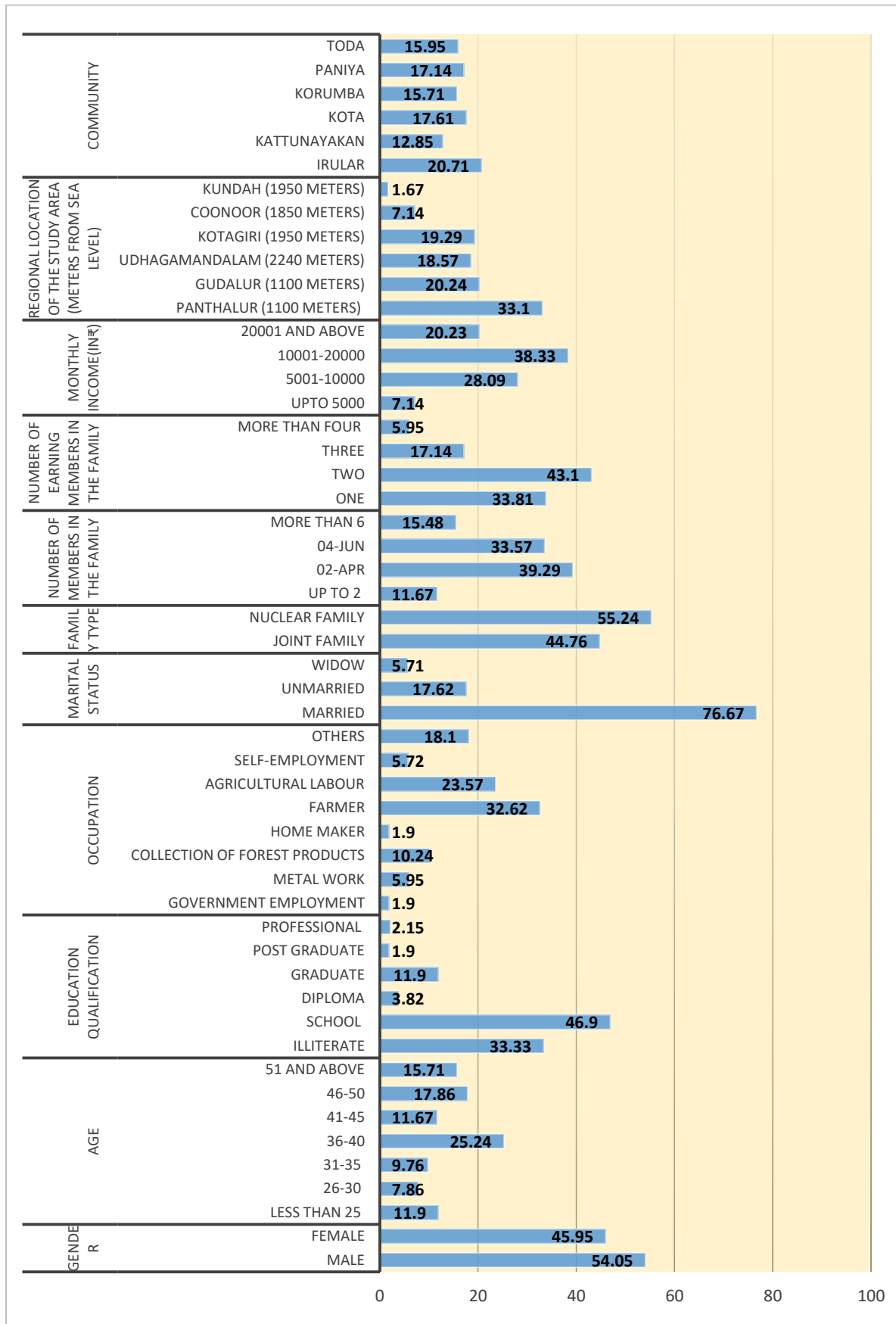


Figure 4.1

Demographic and Socio-Economic Profile of the Tribal Respondents

The regional location of the tribal respondents are as follows, 33.10 percent are located in Panthalur (1100 meters away from sea level), 20.24 percent are located in Gudalur (1100 meters away from sea level), 18.57 percent are located in Udhagamandalam (2240 meters away from sea level), 19.29 percent are located in Kotagiri (1950 meters away from sea level), seven percent are located in Coonoor (1850 meters away from sea level) and two percent are located in Kundah (1950 meters away from sea level). The total sample of tribal respondents belong to sub-sector of the Irular (20.71 percent), Kota (17.61 percent), Paniya (17.14 percent), Toda (15.95 percent), Korumba (15.71 percent) and Kattunayakan contributes 12.85 percent respectively.

It is inferred that majority of the respondents are male and are of younger ages. Most of them have completed their school level education and their sustenance is based on agriculture. Majority of the tribal respondents are married and majority respondents are in nuclear family. Majority of the tribal respondents have 2-4 members in their family. Most of the tribal respondents families are having two earning members and their regional location is Panthalur which located at 65kms away from Udhagamandalam and 1100 meters from sea level. 21 percent of the tribal respondents belongs to Irula tribal community.

Table 4.1.1 Banking Practices among the Tribal Respondents

“Banking habits of the respondents are the influential factor that indicates the extent of financial inclusion among tribal respondents. In India, providing access to formal financial services and products has been a thrust of banking policy for several decades (Anita Gardeva & Elisabeth Rhyne, 2011)”. The various levels undertaking a wide range of measures to include the excluded or the under-served within the fold of formal finance.

The Government and the Reserve Bank of India have undertaken a whole host of innovative and dedicated measures to drive forward the financial inclusion agenda (Report of the Committee on Medium-term Path on Financial Inclusion, 2015). Due to these measure the banking penetration of rural and semi-urban areas have increased significantly. Hence, banking perception among tribal respondents have been analysed and presented in the table 4.2.

Table 4.2 Banking Practices among the Tribal Respondents

Variables	Categories	No. of Respondents	Percentage (%)
Type of Account in Operation	No Frill Saving Account	48	11.42
	General Saving Account	352	83.81
	Current Account	20	4.76
	Total	420	100
Number of Bank Account Opened Per Person	One	299	71.19
	Two	105	25.00
	Three	8	1.90
	More than Three	8	1.90
	Total	420	100
Time of Opening of Bank Account	Before implementing Jan Dhan Yojana	372	88.57
	After implementing Jan Dhan Yojana	48	11.43
	Total	420	100
Source of Financial Services After Implementation of Jan Dhan Yojana	Through Bank Staff	40	83.33
	Through NGO's, Insurance Agent and other institutions	8	16.67
	Total	48	100

Source: Primary Data

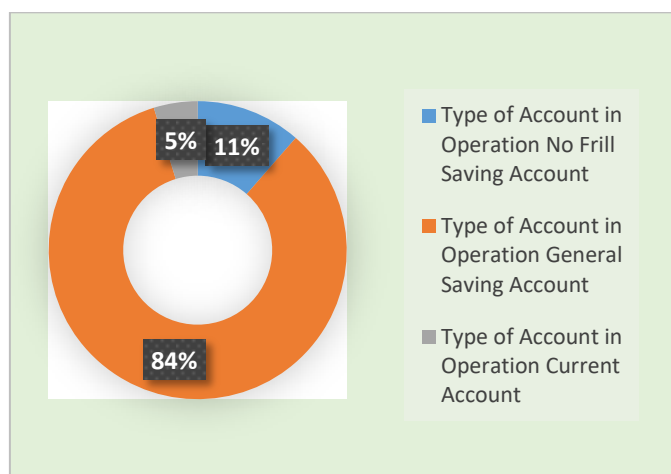
It is inferred from Table 4.2 and figure 4.2 that 83.81 percent of tribal respondents are having savings bank account, 11.42 percent are having no frill saving account and five percent are having current account. With regard to number of bank account held, 71.19 percent of the tribal respondents are having only one bank account, 25 percent of them are maintaining two bank accounts and nearly two percent of tribal respondents are having three bank accounts and another two percent are having more than three bank accounts.

About 88.57 percent of the tribal respondents opened bank account before implementing Jan Dhan Yojana and remaining 11.43 percent of them have opened their bank account after implementing Jan Dhan Yojana. After announcement of Jan Dhan Yojana majority of the tribal respondents (83.33 percent) gained knowledge about financial services through bank staff and remaining 16.67 percent of them gained information about financial services through NGO's, insurance agent and other financial institutions.

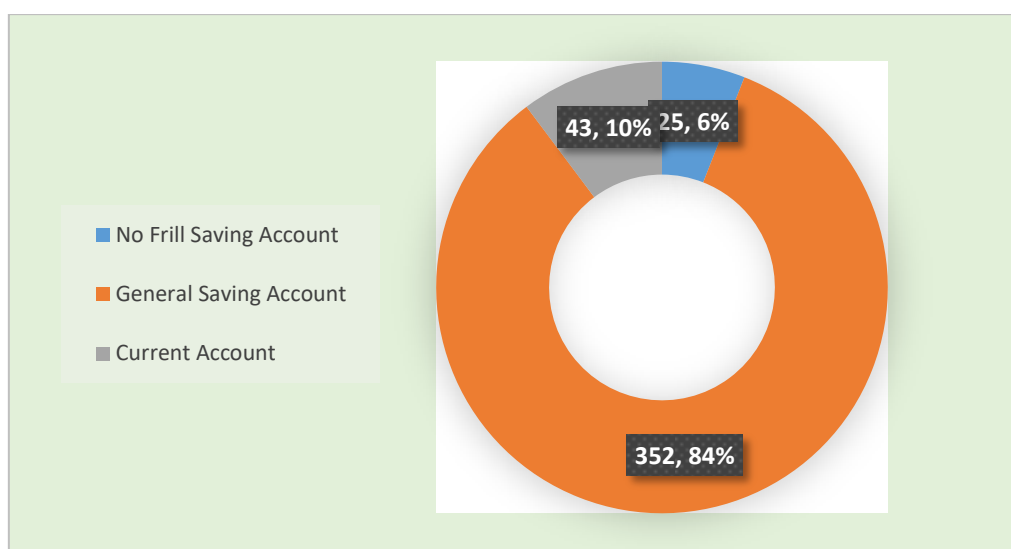
Further, majority of the tribal respondents opened bank account before announcement of Jan Dhan Yojana to avail direct benefit transfer from the Government. Covering the uncovered tribal respondents under the stream of financial inclusion has happened after implementation of Pathan Mantri Jan Dhan Yojana scheme.

It is inferred that the tribal sample respondents have opened one savings account to avail direct benefit transfer scheme even before the implementation of Pathan Mantri Jan Dhan Yojana. Bank official were engaged in educating tribal respondents about their features of Pathan Mantri Jan Dhan Yojana schemes through business correspondents and other agents.

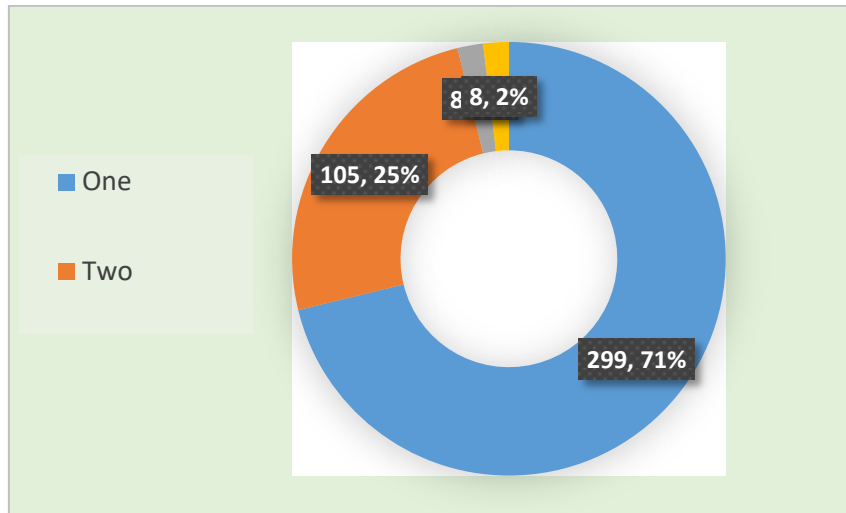
Figure 4.2 Banking Practices among the Tribal Respondents



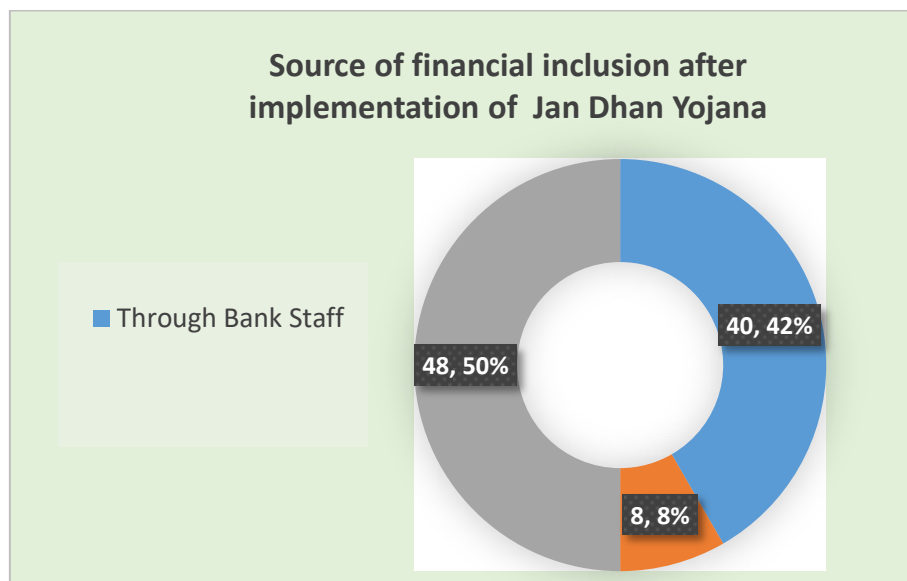
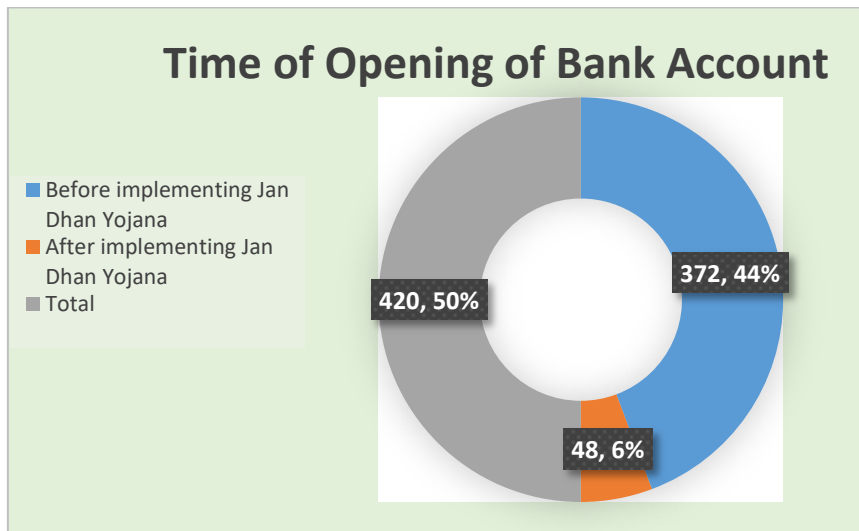
Type of Account in Operation



Banking Practices among Tribal respondents



Number of Bank Account opened per Person



4.2 Awareness on Financial Inclusion among the Tribal Respondents

Mere opening of bank account will not lead to financial inclusion, the other financial inclusive measures like banking operations, types of accounts offered, linkage with Self-help Groups and NGO's, ATM/Debit card services, Digital /mobile/ online banking services are to be known by the tribal respondents.

Financial inclusion is essential and simple because it is prerequisite provision available for obtaining an equitable growth especially for an economy transiting from an rural system to industrial modern society (Gandhi.M.M, 2013). Financial inclusion of the tribal people in the banking activities are supported by various social factors. But in the case of policy implementation on the upliftment of poor, the systematic way of delivery of banking services are not possible from the side of bank as well as common people. Hence the banks are facing various problems to take up financial inclusion plan among the mass of tribal people who do not even know about the basics of banking before financial inclusion.

4.2.1 Awareness towards Banking Operations among Tribal Respondents Before Entering into the Stream of Financial Services

Financial inclusion initiatives were carried out by the Government of India and RBI after the introduction of the PMJDY scheme in the year 2014. However, the tribal respondents were connected with the Government before these initiatives through banks to avail direct benefit transfer from schemes. Before entering into the stream of financial services the tribal respondents opened bank accounts to get their direct benefits.

To know the real situation exist among tribal respondents in the study area above the status of the awareness towards banking operations before entering into the stream of financial services was analyzed and ranked based on the mean value computed and present in Table 4.3.

4.3 Awareness Towards Banking Operations Among Tribal Respondents Before Entering into the Stream of Financial Services

Variables	Well Aware	Aware	Moderately Aware	Not Aware	Not At All Aware	Sum	Mean	Rank
Banking Operation in General	98 (23.33)	65 (15.47)	58 (13.80)	133 (31.67)	66 (15.71)	1447	3.44	3
Types of Accounts offered	43 (10.24)	47 (11.19)	106 (25.23)	158 (37.61)	66 (15.71)	1369	3.10	5
Types of Credit Offered by Banks	17 (4.05)	53 (12.61)	90 (21.43)	105 (27.38)	155 (36.90)	932	2.21	6
Types of Deposits offered	8 (1.90)	39 (33.10)	90 (21.42)	118 (28.09)	165 (39.29)	831	1.97	10
Services Offered (Other than Deposits /Loan)	9 (2.14)	23 (5.47)	122 (29.05)	149 (35.48)	117 (27.85)	918	2.18	7
Bank's Linkage with SHGs/DIC/ NGOs	156 (37.14)	150 (35.71)	80 (19.04)	25 (5.95)	9 (2.14)	1679	3.97	2
ATM/Debit card services	33 (7.86)	9 (2.14)	72 (17.10)	164 (39.05)	142 (33.80)	887	2.11	8
Government benefits remitted through banks	165 (39.29)	165 (39.28)	57 (13.57)	8 (1.90)	25 (5.95)	1697	4.04	1
Availing Life or Health Insurance /pension Subscriptions promoted through Banks	138 (32.86)	135 (32.1.4)	24 (5.71)	8 (1.90)	115 (27.38)	1433	3.41	4
Other services (Digital/Mobile /online Banking Services)	25 (5.95)	26 (6.19)	74 (17.62)	139 (33.10)	156 (37.14)	885	2.10	9

Source: Computed Data

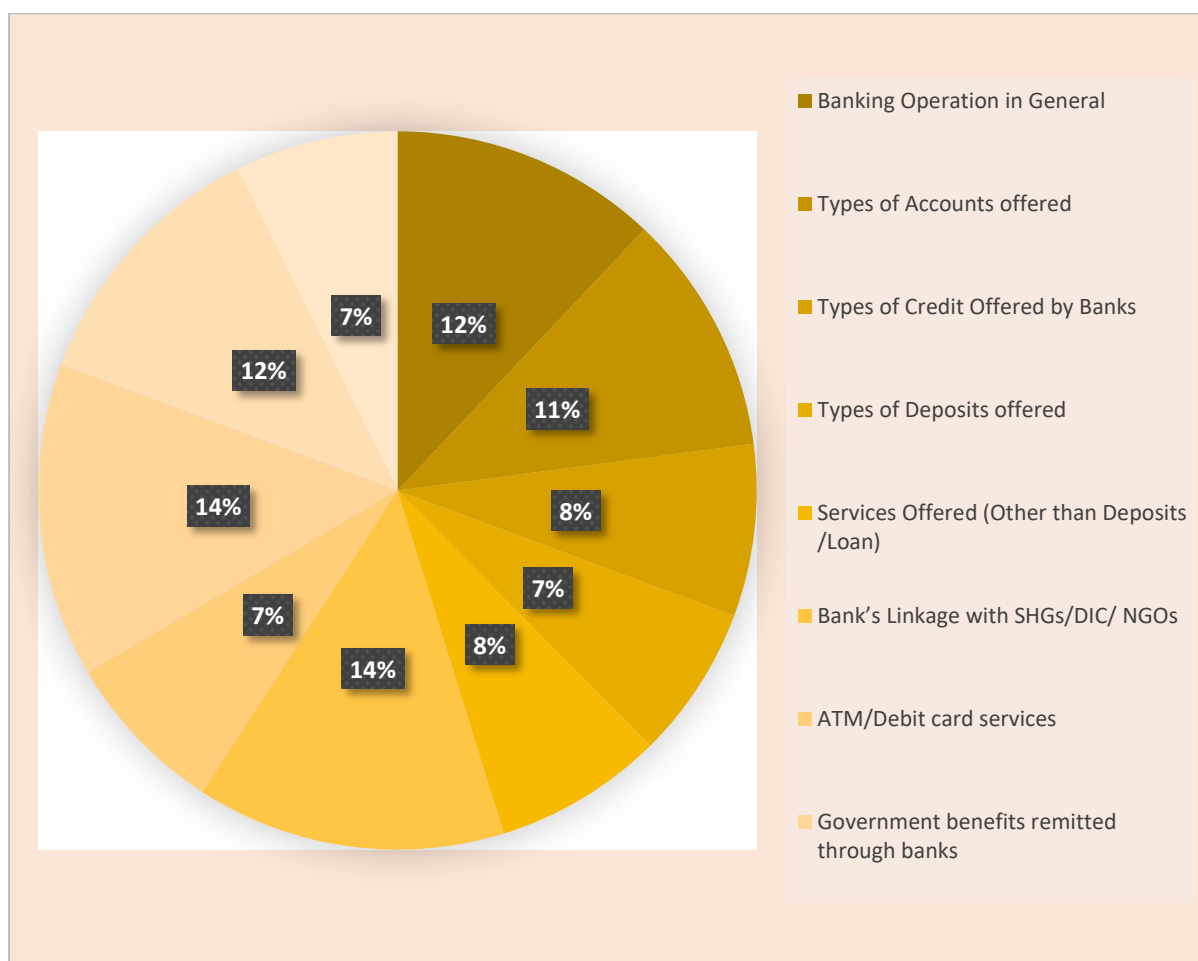
Figures in parenthesis represent percentage of the total

Table 4.3 and Figure 4.3 shows awareness towards banking operations before entering into the stream of financial services among tribal respondents. Only 39.29 percent of select tribal respondents were more aware of Government benefits remitted through banks. 37.14 percent of select tribal respondents were well aware of the bank's linkage with SHGs, DICs, and NGOs. 32.8 percent of select tribal respondents were well aware of availing of life or health insurance and pension schemes.

Before entering into the stream of financial services the select tribal respondents were well aware of Government benefits remitted through banks with a mean score of 4.04 and ranks first among all other variables. The bank linkages with SHG/DIC/NGOs rank second with a mean value of 3.99, hence the SHGs and NGOs provide doorstep financial facilities to the tribal respondents. The banking operations in general rank third with a mean value of 3.76. Types of accounts offered were ranked fourth with a mean value of 3.10. Services offered (other than deposits/loans) were ranked fifth with a mean score of 2.90. Types of credit offered by banks were ranked sixth with a mean score of 2.71. The respondents are moderately aware of availing life or health insurance /pension subscriptions promoted through banks which ranks seventh with a mean value of 2.69. Types of deposits offered rank eighth with a mean of 2.54. The tribal respondents were least aware of ATM/Debit card services with a mean value of 2.11 and digital banking services with a mean value of 2.10.

It is inferred from Table 4.3 that before entering into the stream of financial services the tribal respondents were aware of the nature of Government benefits remitted through banks, and the types of credit offered through banks (with the link of Aadhar bank account). The select tribal respondents were least aware of the other services provided by the bank like Digital/Mobile/online banking services, since their educational background is poor, the use of technologies is also less. It was observed that most of the select tribal respondents were not aware usage of smartphones for digital payments before entering into the stream of financial services. The tribal respondents were not aware of the other financial inclusion services provided by the Government and financial institutions for financial inclusion.

Figure 4.3 Awareness Towards Banking Operations Among Tribal Respondents Before Entering into the Stream of Financial Services



4.2.2 Awareness Towards Banking Operations Among Tribal Respondents After Entering into the Stream of Financial Services

“Financial inclusion often has been seen as a socio-economic development tool that should be subsidized by the majority of the developing countries Government’s (World Bank, 2015)”. The RBI and Government of India initiating policies to include the excluded people into the stream of financial services system. The big push towards financial inclusion in India has emanated from the Pradhan Mantri Jan Dhan Yojana (PMJDY) in August 2014. In order to know the awareness towards banking operations the mean score have been calculated and rank was assigned and the results are given in Table 4.4.

Table 4.4 Awareness Towards Banking Operations Among Tribal Respondents After Entering into the Stream of Financial Services

Variables	Well Aware	Aware	Moderately Aware	Not Aware	Not At All-Aware	Sum	Mean	Rank
Banking Operation in General	224 (53.33)	98 (23.33)	81 (19.29)	0 (0.00)	17 (4.05)	1772	4.22	3
Types of Bank Accounts Available	224 (53.33)	155 (36.90)	41 (9.77)	0 (0.00)	0 (0.00)	1863	4.44	1
Types of Credit Offered by Banks	166 (39.52)	153 (36.43)	67 (15.96)	26 (6.19)	8 (1.90)	1703	4.05	7
Types of Deposits Available	159 (37.52)	145 (34.52)	90 (21.43)	17 (4.05)	9 (2.14)	1688	4.02	8
Nature of Services Offered to the Customers (Other than Deposits /Loan)	124 (37.86)	188 (44.76)	83 (19.77)	25 (5.95)	0 (0.00)	1671	3.98	9
Bank's Linkage with SHGs/DIC/Tribal NGOs	174 (29.52)	154 (36.67)	68 (16.99)	0 (0.00)	24 (5.71)	1714	4.08	6
ATM/Debit card services	180 (41.43)	159 (37.86)	65 (15.48)	8 (1.90)	8 (1.90)	1755	4.18	4
Nature of Government Benefits Remitted through Banks	192 (42.86)	155 (36.90)	65 (15.49)	0 (0.00)	8 (1.90)	1783	4.25	2
Availing Financial Services (Life or Health Insurance /pension Subscriptions) promoted through Banks	155 (36.90)	191 (45.47)	50 (11.90)	16 (3.82)	8 (1.90)	1729	4.12	5
Other services (Digital/Mobile/Online Banking Services)	155 (36.90)	165 (39.29)	58 (13.81)	17 (4.05)	25 (5.95)	1668	3.97	10

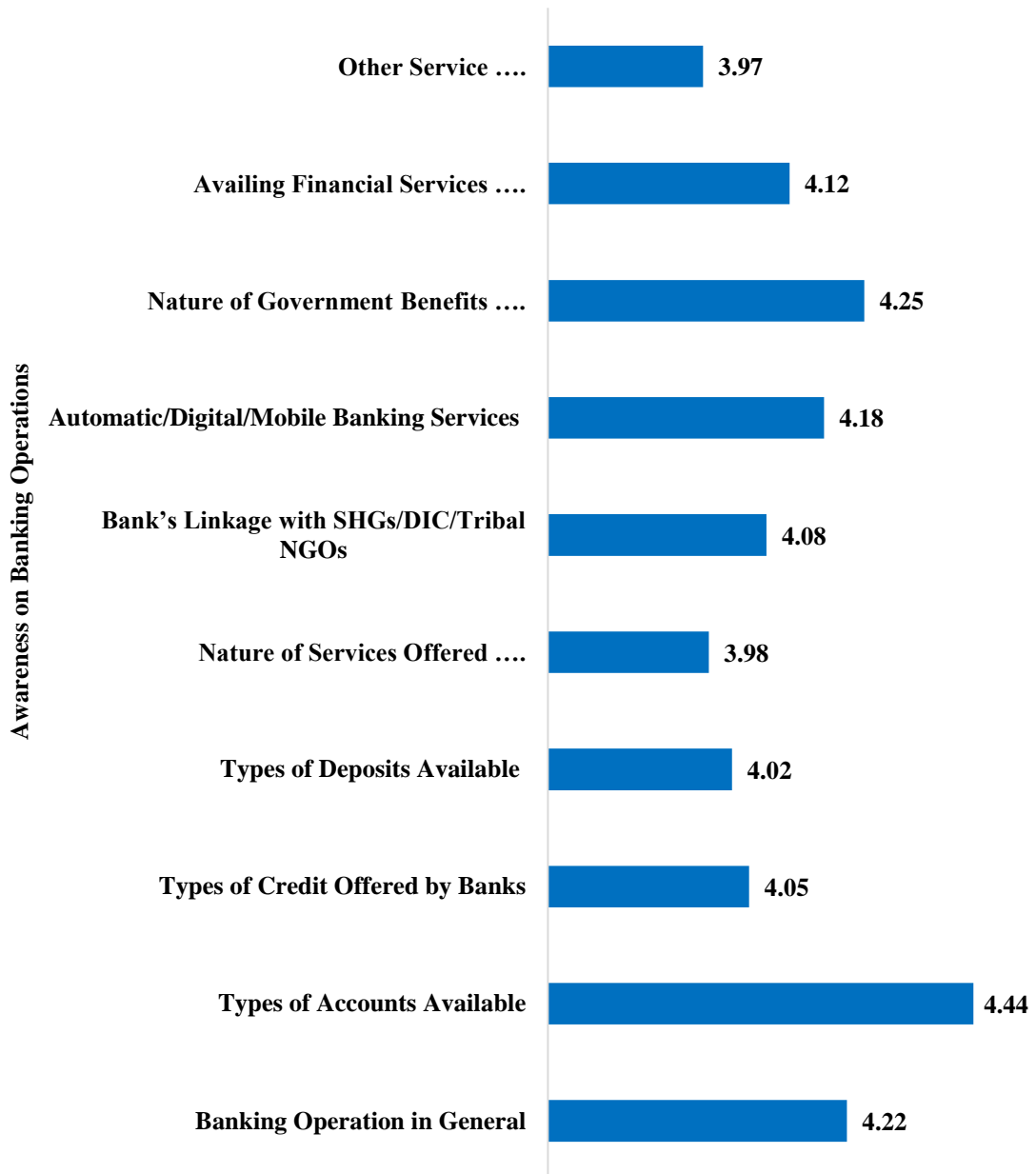
Source: Computed Data Figures in parenthesis represent percentage of the total

Table 4.4 and Figure 4.4 reveals that the select tribal respondents were well aware of the banking operations after entering into the stream of financial services. The majority of the select tribal respondents (53.33 percent) were well aware of banking operations in general. Majority of the tribal respondents (53.33 percent) were well aware of the types of bank accounts available. The tribal respondents were well aware of the nature of Government benefits remitted through banks (42.86 percent). 41.43 percent of the select tribal respondents were aware of ATM/debit card services. 39.52 percent of the respondents were aware of the types of credit offered by banks. 37.52 percent were aware of the types of deposits available in the banks.

Based on the mean value ranks were assigned to know the awareness towards banking operations after financial inclusion among tribal respondents. The variable types of bank accounts available is ranked first with a mean score of 4.44, nature of Government benefits remitted through banks is ranked second with a mean of 4.25, banking operation in general 4.22 was ranked third, ATM/Debit card services is ranked fourth with a mean value of 4.18, availing financial services (Life or Health insurance /pension subscriptions) promoted through banks was ranked fifth with a mean of 4.12, bank's linkage with SHGs/DIC/NGOs was ranked sixth with a mean score of 4.08, types of credit offered by banks was ranked seventh with a mean score of 4.05, types of deposits available was ranked eighth with a mean value of 4.02, nature of services offered to the customers (Other than Deposits /Loan) ranked ninth with a mean value of 3.98 and other services like digital/mobile/online banking services with a mean score of 3.97 ranked tenth.

Thus, it has been concluded that after entering into the stream of financial majority of the tribal respondents were aware of the types of bank accounts available, the nature of Government benefits remitted through banks, banking operations in general, and ATM/debit card services. After financial inclusion initiatives, the select tribal respondents were more aware of banking operations and ATM /debit card services. However, the tribal respondents were least aware of other services like Digital/Mobile/online banking services. Hence the usage of smartphones among select tribal respondents was limited since the usage of digital/online payment was less among select tribal respondents because of poor educational background.

Figure 4.4 Awareness Towards Banking Operations Among Tribal Respondents After Entering into the Stream of Financial Services



4.2.3 Awareness Towards Banking Operations Among Tribal Respondents Before and After Entering into the Stream of Financial Services

In order to examine whether a mean difference existed among awareness on banking operations before and after financial inclusion of tribal respondents a null hypothesis was framed and Paired t test was applied to test the hypothesis.

H₀₁: There is no significant mean difference between awareness on banking operations before and after entering into the stream of financial services by the tribal respondents

H_{a1}: There is a significant mean difference between awareness on banking operations before and after entering into the stream of financial services by the tribal respondents

Table 4.5 Awareness Towards Banking Operations Among Tribal Respondents After Entering into the Stream of Financial Services

Particulars	Awareness on banking operations before Financial Inclusion		Awareness on banking operations after Financial Inclusion		Mean difference	T value	Df	Sig (2-tailed)	H ₀
	Mean	S.D	Mean	S.D					
Banking Operation in General	3.93	0.983	4.21	1.02	-0.288	-4.321	419	.000	Rejected
Types of Accounts offered	3.92	1.122	4.43	0.66	-0.511	-8.266	419	.000	Rejected
Types of Credit Offered by Banks	4.03	0.974	4.05	0.98	-0.021	-0.301	419	.764	Accepted
Types of Deposits offered	4.04	0.975	4.01	0.97	0.016	0.023	419	.811	Accepted
Services Offered (Other than Deposits /Loan)	3.90	1.042	3.97	0.85	-0.078	-1.206	419	.228	Accepted
Bank's Linkage with SHGs/DIC/ NGOs	3.99	0.997	4.08	1.04	-0.083	-1.273	419	.204	Accepted
ATM/Debit card services	4.01	1.035	4.17	0.89	-0.180	-2.809	419	.005	Rejected
Government benefits remitted through banks	4.04	1.068	4.24	0.85	-0.204	-3.264	419	.001	Rejected
Availing Life or Health Insurance /pension Subscriptions promoted through Banks	3.98	1.102	4.11	0.89	-0.133	-2.428	419	.016	Rejected
Other services (Digital/Mobile /online Banking Services)	3.85	1.132	3.97	1.09	-0.121	-1.844	419	.066	Rejected

Source: Computed data

It is inferred from the above Table 4.5 that there exist a difference among tribal respondents awareness on banking operations before and after entering into the stream of financial services. On analysing the mean difference among tribal respondents awareness on banking operations before and after financial inclusion, statistically high significant mean difference exists among six elements. It includes Banking Operations in General (.000), Types of Accounts offered (.000), ATM / Debit card services (.005), Government benefits remitted through banks (.001), Availing Life or Health Insurance /pension Subscriptions promoted through Banks (.016), Other services (Digital/Mobile /Online Banking Services) (.066) respectively.

Based on the paired sample statistics, there is no statistically significant mean difference that exists among tribal respondents' awareness on banking operations before and after entering into the stream of financial services. It comprises of Types of Credit Offered by Banks (.764), Types of Deposits offered (.811), Services Offered (Other than Deposits /Loan) (.228), and Bank's Linkage with SHGs/DIC/ NGOs (.204).

It demonstrates the existence of a gap between tribal respondent's awareness on banking operations before and after entering into the stream of financial services. Thus, the select tribal respondents are well aware of the banking operations after entering into the stream of financial services. Hence, the hypothesis (H_a) is accepted. There is a significant mean difference between awareness on banking operations before and after entering into the stream of financial services.

4.3 Access to Financial Institutions by the Tribal Respondents

To understand access to various financial institutions responses from the sample tribal respondents were collected and analyzed. Tribal communities could make use of a wide range of financial inclusion services like savings, money transfer services, insurance products, loans etc., (Najarajan meyer 2016). Ensuring the financial inclusion of the tribal people can unlock the considerable economic potential of tribal areas. The Government increases the capacity of Financial Institutions to serve tribal and remote areas. These financial institutions have also implemented their agenda on financial literacy to the tribal communities through training curricula so that tribal communities can be enhanced their financial decisions, household decisions and in their economic activities.

4.3.1 Access to Financial Institutions by the Tribal Respondents

Banks play an essential role in promotion of financial inclusion measures among tribal respondents. Apart from the banks the other financial institutions also play a pivot

role in promoting financial inclusion especially in tribal regions. In order to understand the linkage of tribal respondents with various financial institutions in promoting financial inclusion, percentage analysis have been carried out and presented in Table 4.6.

Table 4.6 Access to Financial Institutions by the Tribal Respondents

Linkages	No. of Respondents(*) (n:420)	Percentage (%)
Co-operative Societies	168	40.00
Regional Rural Banks	67	15.95
Local Post Office	197	46.90
Commercial Banks	198	47.14
Non-Governmental Organizations	138	32.86
NBFC (Non-Banking Financial Corporation)	66	15.71
Micro-Finance Institutions	58	13.81

Source: Primary Data

*Multiple responses

Table 4.6 and Figure 4.5 reveals that most of the select tribal respondents (47.14 percent) are having linkages with Commercial banks. Commercial banks plays an important role, they are acting as a liason between Government and the tribal. All Government led benefits are reached through banks. Nearly 46.9 percent of the tribal respondents are having linkages with post office. The post office serves as nodal office and most of the tribal respondents have linkage with post office for opening savings account, recurring deposit, pension plans and that located nearby to their places.

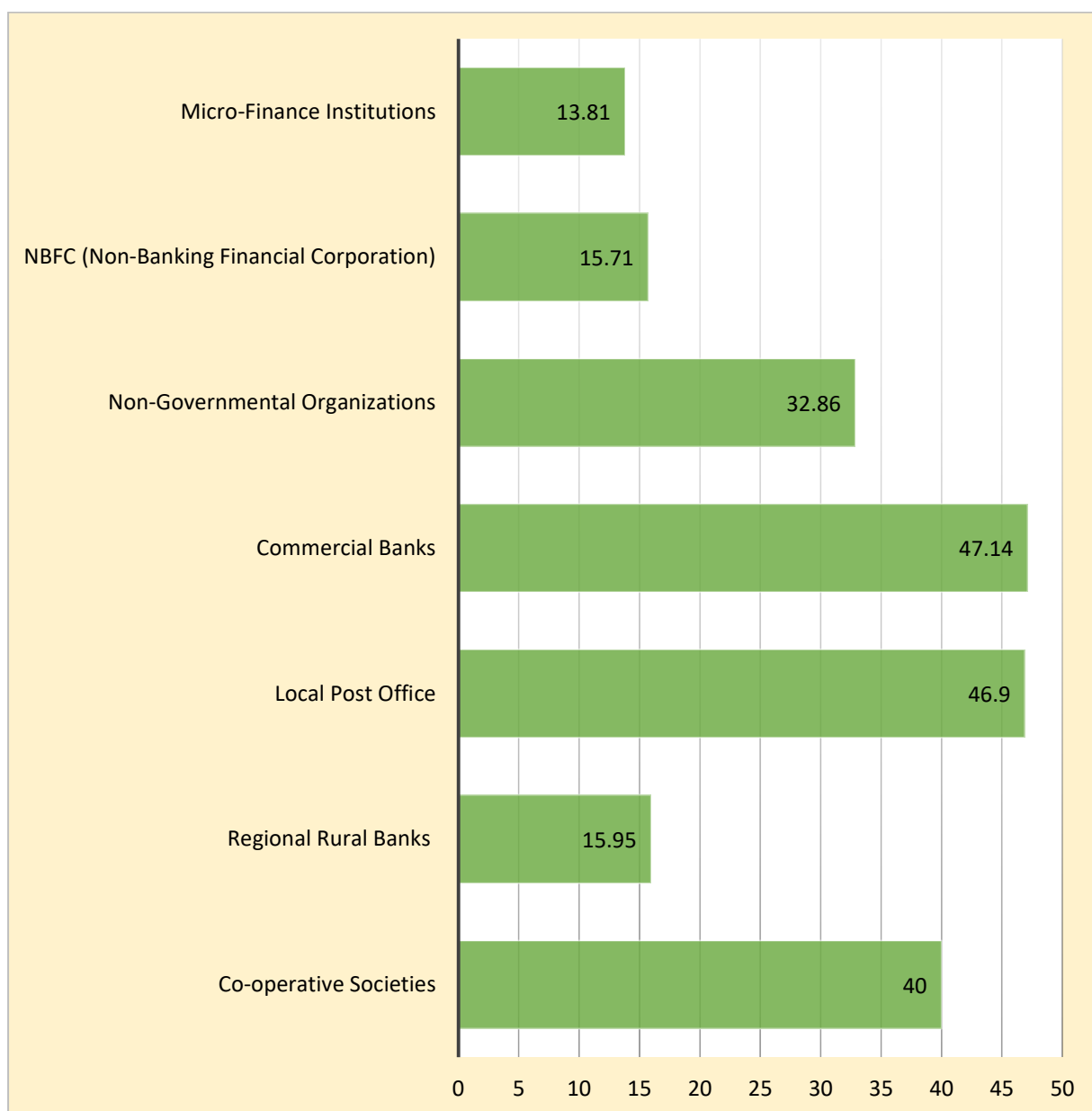
Nearly 40 percent of the tribal respondents are having linkages with Co-operative societies. The Co-operative societies are set up by the Government for the integrated tribal development which geared to perform all financial inclusion functions due to sole demographic conditions, life pattern of tribal respondents and other operational constraints.

About 33 percent of the respondents are having linkages with Non-Governmental Organizations. The tribal respondents have linkage with Niligiri Adivasi Welfare Association (NAWA - Non Governmental Organization). The main target of the NGO is to improve theeconomic conditions, health andeducational of the tribal respondents

residing in the study area.15.71 percent of the respondents are having linkages with Non-Banking Financial Corporation and only 13.81 percent are having linkage with Micro-Finance Institutions.

It is inferred that majority of tribal respondents have access to Commercial Banks, Local Post Office and are well aware of the financial inclusion measures adopted through Commercial Banks and Post Office.

Figure 4.5 Access to Financial Institutions by the Tribal Respondents



4.3.2 Access to Digital/Electronic Payment Modes by Tribal Respondents

The digital or electronic payment services are spearheading a greater part of the payment system in India and in tribal areas as well. Digital banking services have diversified from basic money transfer and bill payments to credit, cross-border remittances, savings, bulk disbursements and other value-added services like pay-as-you-go utility bills, and so on (Taiwo&Agwu, 2017). As stated by (Ndungu, 2015), the biggest drivers of digital /Electronic payment services are young people, who prefer to check their bank balance on a smartphone rather than visit a bank branch or ATM hundreds of miles away, especially in tribal areas. The effect is that anyone with mobile phone or any internet enabled device can have access to banking services without being physically present in the bank.

People in the Tribal areas can carry on banking transactions without any restrictions. One of the major issues frustrating the achievement of financial inclusion is the absence of financial institutions in the Tribal areas Digital financial inclusion ensures that the marginalized and underserved population has digital access to and use of formal financial services. To understand the usage of digital/electronic payments among tribal respondents' percentage analysis has been analyzed and presented in Table 4.7.

Table 4.7 Usage of Digital /Electronic Payment Modes by Tribal Respondents

Digital /Electronic Payment Modes	No. of Respondents (n=420)	Percentage (%)
Have used Digital /Electronic Payment Modes	212	50.48
Haven't used Digital /Electronic Payment Modes	208	49.52

Source: Primary Data

Table 4.7 shows that 50.48 percent of the tribal respondents are using digital/electronic payment modes and the remaining 49.52 percent of them are not actively using digital payment. The study cleared that 50 percent of the tribal respondents are using digital/electronic payment modes and the remaining 50 percent of the respondents have no experience of using digital payment mode.

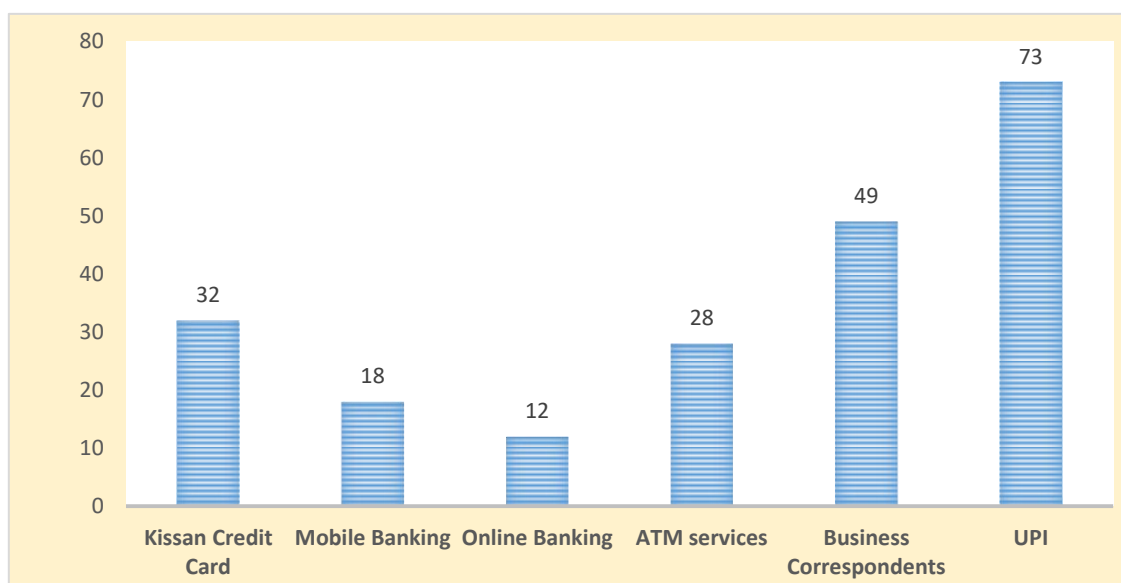
Table 4.8 Avenues of Digital /Electronic Payment Utilized by Tribal Respondents

Mode of Payment	No. of Respondents (N= 212)	Percentage (%)
Kissan Credit Card	32	15.09
Mobile Banking	18	8.49
Online Banking	12	5.66
ATM services	28	13.20
Business Correspondents	49	23.11
UPI	73	34.43

Source: Primary Data

The Table 4.8 and Figure 4.6 shows that 34.43 percent of the tribal respondents in the Nilgiris adopt digital payments to remit their billing through UPI payments. 23.11 percent of the tribal respondents are using Business correspondence to withdraw cash, 15.09 percent of the tribal respondents are using Kissan Credit Card for payments at the fertilizer shops to buy fertilizers, since most of the tribal respondents are involved in agriculture. 13.20 percent of them are making digital transactions through ATM machines. Only Eight percent of the tribal respondents are using digital payments using mobile banking services. Nearly six percent of the tribal respondents are using online banking services. It is inferred that most of the tribal respondents are using UPI as digital/electronic payment system.

Figure 4.6 Avenues of Digital /Electronic Payment Utilized by Tribal Respondents



4.3.3 Socio-Economic Comparison of Access to Financial Institutions among Tribal Respondents

Comprehending the socio-economic dynamics among Indigenous communities is crucial for the successful implementation of financial inclusion programs. Many tribal communities experience economic vulnerability, limited access to mainstream financial institutions, and marginalization despite their rich heritage. To create financial inclusion initiatives that are specifically targeted to the needs and challenges of tribal groups, socio-economic analysis must be done. These investigations shed light on the sociocultural setting, financial practices, economic activity, and access constraints. Policymakers, financial institutions, and development organizations may create inclusive and sustainable financial solutions that empower indigenous populations and support their socioeconomic growth by having a thorough understanding of these aspects.

H₀₁: There is no significant mean difference between Socio-economic variables and access to various Financial Institutions by the Tribal Respondents

H_{a1}: There is a significant mean difference between Socio-economic variables and access to various Financial Institutions by the Tribal Respondents

To understand the ease of access to various financial institutions and its relationship with the socio-economic profile of the respondents analyzed through ANOVA test was applied.

4.3.4 Gender and Access towards Financial Institutions

Gender is one of the vital factors in the demographic profile of the tribal respondents. Gender difference prevails in the tribal family as the role of activities performed by males and females. Accordingly, to know the equal access to the financial institutions by male and female respondents hypothesis was framed.

H₀₁: There is no significant mean difference between Gender and Access to various Financial Institutions by the Tribal Respondents

H_{a1}: There is a significant mean difference between Gender and Access to various Financial Institutions by the Tribal Respondents

ANOVA test was applied based on the result presented in Table 4.9

Table 4.9 Gender and Access towards Financial Institutions

Institutions	Male		Female		F Value	Sig	Result
	Mean	SD	Mean	SD			
Co-operative Societies	2.674	0.470	2.513	0.501	11.530	0.001	Significant
Regional Rural Banks	2.987	0.290	2.974	0.278	10.208	0.049	Significant
Local Post Office	3.392	0.489	3.560	0.498	12.034	0.001	Significant
Commercial Banks	3.855	0.992	4.047	1.002	13.875	0.050	Significant
Non-Governmental Organizations	4.163	1.465	3.777	1.318	7.930	0.005	Significant
NBFC (Non-Banking Financial Corporation)	3.581	1.413	3.684	1.510	10.515	0.044	Significant
Micro-Finance Institutions	3.727	1.766	3.648	1.683	10.219	0.040	Significant

Source: Computed data

Level of Significance: 5 per cent

The table 4.9 reveals that the Co-operative societies were easily accessed by male respondents with a mean value of 2.674 when compared to females (2.513). Whereas a highly significant mean difference exists in gender-wise access to the Co-operative societies. The Regional Rural banks were accessed by male respondents with a mean score of 2.987. On the other hand, the Commercial Banks were accessed by female respondents with a mean score of 3.560 and a highly significant difference exists in approaching the Self-Help Group by female than male respondents. The Commercial Banks plays an important role in funding of tribal women respondents for their financial requirements for their livelihood.

The female respondents also access the Commercial Banks for availing financial inclusion services than male respondents with a mean score of 4.047. The male respondents access the non-banking financial companies than female respondents for borrowing money since they are providing instant loan without any securities, but they charge high rate of interest. NGO's were accessed by female respondents than male respondents with a mean score of 3.684. The male respondents were accessing Micro Finance Institutions than female respondents with a mean score of 3.727. Overall the access towards various financial institutions of the tribal respondents varies with gender.

The resulting significant value shows that the accessibility of financial institutions varies with the gender of the tribal respondents at one percent level of significance for co-operative society (0.001) and local post office (0.001). Further five percent level of

significance was resulted with Regional Rural Banks (0.049), Commercial Banks (0.050), NBFC(0.005), NGO(0.044) and linkage with MIF's (0.040). Hence the null hypothesis (H_0) is rejected

Further, the calculated test statistics presented in Table 4.9 reveals that there is a significant association that exists between gender and access towards financial institutions by the Tribal respondents.

4.3.5 Age and Access towards Financial Institutions

Age of the tribal respondents is an important factor which impact their access towards financial institutions. In order to understand the significant mean difference if any, between age and access towards various financial institutions of tribal respondents, hypothesis was framed.

H_{02} : There is no significant mean difference between Age and Access to various Financial Institutions by the Tribal Respondents

H_{a2} : There is a significant mean difference between Age and Access to various Financial Institutions by the Tribal Respondents

ANOVA test has been applied and the results are presented in Table 4.10.

Table4.10 Age and Access towards Financial Institutions

Institutions	Less than 25 Years		26-30 Years		31-35 Years		36-40 Years		41-45 Years		46-50 Years		51 Years and Above		F Value	Sig	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	1.390	0.494	1.485	0.508	1.320	0.470	1.604	0.491	1.653	0.481	1.680	0.471	1.600	0.490	16.135	0.000	Significant
Regional Rural Banks	2.098	0.300	2.000	0.354	1.933	0.300	1.934	0.285	2.943	1.000	2.000	0.289	2.000	0.248	2.168	0.045	Significant
Local Post Office	2.660	0.479	2.515	0.508	2.213	0.412	2.462	0.501	2.805	0.401	2.673	0.474	2.242	0.432	13.231	0.000	Significant
Commercial Banks	3.360	0.942	3.171	0.998	2.693	0.958	3.226	0.979	1.981	0.284	3.455	0.905	2.758	0.978	15.883	0.000	Significant
Non-Governmental Organizations	3.440	1.514	2.469	0.500	2.585	1.204	2.934	1.396	2.490	1.120	2.640	1.237	2.727	1.296	18.479	0.000	Significant
NBFC (Non-Banking Financial Corporation)	3.280	1.885	2.970	1.741	2.427	1.243	2.302	1.062	2.986	1.411	3.659	1.995	2.545	1.383	8.982	0.000	Significant
Micro-Finance Institutions	2.976	2.006	3.212	2.176	2.690	1.727	2.802	1.843	2.629	1.457	3.600	2.356	2.682	1.729	6.917	0.000	Significant

Source: Computed data

Table 4.10 reveals that the tribal respondents family with the age group of 46-50 years were accessing the financial institutions like Co-operative societies with a mean score of 1.680, Commercial Banks with a mean score of 3.455, Non-Banking Financial Companies with a mean score of 2.640, Non-Governmental Agencies with a mean score of 3.659, MIF's with a mean score of 3.600 for their financial needs.

Further the tribal respondent's family with the age group of 41-45 years were accessing the Regional Rural Banks with a mean score of 2.943, Post office with a mean score of 2.805 for their financial support.

The resulted significant value shows that the accessibility of financial institutions varies with gender of the tribal respondents at one percent level of significance. Further the calculated test statistics presented in Table 4.10 reveals that there is a significant association that exist between the age of the tribal respondents and access towards financial institutions by the Tribal respondents. Therefore the null hypothesis(H_0) is rejected.

4.3.6 Educational Qualification and Access towards Financial Institutions

Educational qualification is the factor in which we can relate the access towards financial institutions and their utilization of financial services among tribal respondents for effective financial inclusion. In order to find the significant mean difference the hypothesis was framed and ANOVA test was applied.

H_{03} : There is no significant mean difference between Educational Qualification and Access to various Financial Institutions by the Tribal Respondents

H_{a3} : There is a significant mean difference between Educational Qualification and Access to various Financial Institutions by the Tribal Respondents

Table 4.11 Educational Qualification and Access towards Financial Institutions

Institutions	Illiterate		School Level		Diploma		Graduate		Post Graduate		Professional		F Value	Sig	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	1.981	0.284	1.614	0.488	1.500	0.516	1.340	0.479	1.600	0.490	1.693	0.463	8.224	0.000	Significant
Regional Rural Banks	1.889	0.333	2.000	0.202	1.938	0.250	1.995	0.277	1.875	0.354	1.971	0.316	10.655	0.008	Significant
Local Post Office	2.943	1.000	2.462	0.500	2.500	0.516	2.840	0.370	2.469	0.500	2.343	0.476	12.135	0.000	Significant
Commercial Banks	2.714	0.962	3.320	0.957	3.000	1.033	2.914	0.999	2.986	1.411	2.629	1.457	7.236	0.000	Significant
Non-Governmental Organizations	2.514	1.135	3.980	1.436	2.629	1.457	2.990	1.414	2.690	1.727	2.986	1.411	19.961	0.000	Significant
NBFC (Non-Banking Financial Corporation)	2.486	1.311	3.280	1.885	2.690	1.727	2.508	1.335	1.981	0.284	2.469	0.500	6.390	0.000	Significant
Micro-Finance Institutions	2.643	1.680	3.600	2.356	4.500	2.582	2.406	1.369	1.600	0.490	1.693	0.463	8.642	0.000	Significant

Source: Computed data

Table 4.11 reveals that the educational qualification the tribal respondents who were completed studies up to school level were accessing the financial institutions like Regional Rural Banks with a mean score of 2.000, Commercial Banks with a mean value of 3.320, Non-Banking Financial Companies with a mean score of 3.980, Non-Governmental Agencies with a mean score of 3.280, Micro Finance Institutions with a mean score of 3.600 for their financial needs. The illiterate tribal respondents are accessing Co-operative societies with a mean score of 1.981, and Post office with a mean score of 2.943 for their financial needs, since Co-operative societies and Commercial Banks can be easily approachable to the illiterate tribal respondents for their financial inclusion. Since educated respondents are accessing the various financial institutions for their financial needs and which will lead to them in stream of financial inclusion for their upliftment.

It is understood the that tribal respondents who are illiterate patronize co-operative societies with a mean score of 1.981 as Co-operative societies are the older form of institution, it has the track record of providing financial assistance for upliftment of rural subjects.

The resulted significant value shows that the accessibility of financial institutions varies with educational qualification of the tribal respondents. Further the calculated test statistics presented in Table 4.11 reveals that there is a significant association that exist between the educational qualification of the tribal respondents and access towards financial institutions by the tribal respondents. Therefore the null hypothesis(H_0) is rejected.

4.3.7 Occupation and Access towards Financial Institutions

The nature of occupation has its own inherent need for finance to advance it. Accordingly the tribal respondents need for saving and loan requirement are being fulfilled by various financial institutions. The Table 4.12 depicts the occupation wise financial requirements of tribal respondents met by various financial institutions.

Hypothesis was framed and tested and presented in

H_{04} : There is no significant mean difference between Occupation and Access to various Financial Institutions by the Tribal Respondents

H_{a4} : There is a significant mean difference between Occupation and Access to various Financial Institutions by the Tribal Respondents

Table 4.12 Occupation and Access towards Financial Institutions

Institutions	Metal Works		Forest Hunters /Food Livehood		Collection of Forest Products		Housewife		Agriculturist		Agricultural Labour		Self-Employment		Others		F Value	Sig	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	1.981	0.284	2.145	0.624	2.242	0.431	2.605	0.495	2.591	0.493	3.145	0.987	2.667	0.482	2.447	0.501	15.477	.000	Significant
Regional Rural Banks	2.125	0.354	1.920	0.277	2.000	0.286	2.000	0.309	1.978	0.256	2.125	0.354	2.042	0.359	1.921	0.271	11.495	.017	Significant
Local Post Office	1.600	0.490	1.320	0.476	1.045	0.210	1.186	0.394	1.759	0.429	1.747	0.437	1.667	0.482	1.447	0.501	16.135	.000	Significant
Commercial Banks	2.469	0.500	3.360	0.952	3.010	1.005	3.163	0.998	2.467	0.849	4.152	0.654	2.667	0.963	3.526	0.856	15.883	.000	Significant
Non-Governmental Organizations	2.943	1.000	2.690	1.727	3.697	1.495	2.628	1.235	2.547	1.163	5.074	0.874	4.000	1.445	2.947	1.404	18.479	.000	Significant
NBFC (Non-Banking Financial Corporation)	2.986	1.411	2.635	0.654	3.333	1.895	2.837	1.647	2.845	0.964	6.485	0.639	3.333	1.926	2.421	1.236	8.982	.000	Significant
Micro-Finance Institutions	2.629	1.457	2.753	0.160	3.717	2.386	2.569	0.842	2.634	0.874	7.485	0.698	3.667	2.408	2.526	1.545	6.917	.000	Significant

Source: Computed data

Table 4.12 reveals that the tribal respondents whose occupation is agricultural labourer are accessing Co-operative Societies with a mean score of 3.145, Regional Rural Bank with a mean score of 2.125, Commercial Banks with a mean score of 4.152, Non-Banking Financial Companies with a mean score of 5.074, Non-Governmental Agencies with a mean score of 6.485, Micro Finance Institutions with a mean value of 7.485 for their financial needs. The Housewife's are accessing Post office with a mean value of 1.186 for their financial requirements.

The resulting significant value shows that the accessibility of financial institutions varies with occupation of the tribal respondents at one percent level of significance. Further the calculated test statistics given in Table 4.12 reveals that there is a significant association that exist between the occupation of the tribal respondents and access towards financial institutions by the tribal respondents. Therefore, the null hypothesis(H_0) is rejected.

4.3.8 Monthly Income and Access towards Financial Institutions

The income of the tribal respondents is an important factor from which they can access financial institutions for savings, borrowing money, etc., To understand the mean difference between monthly income and access to various financial institutions of tribal respondents, the hypothesis was framed.

H_{05} : There is no significant mean difference between Monthly income and Access to various Financial Institutions by the Tribal Respondents

H_{a5} : There is a significant mean difference between Monthly income and Access to various Financial Institutions by the Tribal Respondents

ANOVA tests have been analyzed and the results are presented in Table 4.13.

Table4.13 Monthly Income and Access Towards Financial Institutions

Institutions	Up to ₹ 5000		₹ 5001-10000		₹ 10001-20000		₹ 20001 and More		F Value	Sig	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	1.653	0.481	1.582	0.495	1.738	0.443	1.545	0.499	2.697	0.046	Significant
Regional Rural Banks	1.976	0.291	1.972	0.291	2.000	0.289	2.000	0.250	10.238	0.000	Significant
Local Post Office	2.327	0.474	2.448	0.499	2.532	0.501	2.492	0.504	2.233	0.004	Significant
Commercial Banks	3.020	1.010	3.064	1.002	3.091	0.999	2.246	0.662	13.654	0.000	Significant
Non-Governmental Organizations	3.959	1.443	3.191	1.473	2.764	1.311	2.369	0.993	15.789	0.000	Significant
NBFC (Non-Banking Financial Corporation)	2.653	1.494	2.709	1.533	2.800	1.605	2.629	1.457	5.084	0.002	Significant
Micro-Finance Institutions	2.816	1.867	2.567	1.592	3.030	2.029	2.690	1.727	6.136	0.000	Significant

Source: Computed data

Table 4.13 reveals that the tribal respondents who's monthly income lies between ₹ 10001-20000 are accessing Co-operative Societies with a mean score of 1.738, Regional Rural Bank with a mean value of 2.000, Post-office with a mean value of 2.532, Commercial Banks with a mean score of 3.091, Non-Governmental Agencies with a mean score of 2.800, Micro Finance Institutions with a mean score of 3.030 for their financial inclusion. The tribal respondents who's monthly income is below ₹ 5000 are accessing Non-Banking Financial Companies with a mean score of 3.959, for rotation of funds for their requirements.

The resulted significant value shows that the accessibility of financial institutions varies with occupation of the tribal respondents at one percent level of significance. Further the calculated test statistics presented in Table 4.13. reveals that there is a significant association that exist between the Occupation of the tribal respondents and access towards financial institutions by the Tribal respondents. Therefore the null hypothesis(H_0) is rejected.

4.3.9 Earning Members in the Family and Access towards Financial Institutions

Earning members of the family will be more aware of the various financial institutions, since they will approach the institutions for depositing, saving and for availing credit from the institutions. In order to understand the significant mean difference, if any ANOVA test have been analysed between earning members and access towards various financial institutions of tribal respondents hypothesis was framed

H_{06} : There is no significant mean difference between Earning Members and Access to various Financial Institutions by the Tribal Respondents

H_{a6} : There is a significant mean difference between Earning Members and Access to various Financial Institutions by the Tribal Respondents

The results are presented in Table 4.14.

4.14 Earning Members in the Family and Access towards Financial Institutions

Variables	One		Two		Three		More than Three		F Value	Sig	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	2.458	0.500	2.724	0.448	2.556	0.500	2.640	0.490	8.509	0.000	Significant
Regional Rural Banks	2.972	0.290	3.014	0.265	2.972	0.287	3.000	0.289	10.462	0.009	Significant
Local Post Office	3.415	0.495	3.680	0.476	3.556	0.500	3.448	0.499	2.900	0.035	Significant
Commercial Banks	3.704	0.959	3.370	0.932	3.667	0.949	3.943	1.000	27.296	0.000	Significant
Non-Governmental Organizations	3.866	1.364	5.040	1.428	4.667	1.501	3.663	1.248	15.133	0.000	Significant
NBFC (Non-Banking Financial Corporation)	3.732	1.552	3.530	1.360	3.889	1.675	3.629	1.457	2.867	0.036	Significant
Micro-Finance Institutions	3.634	1.669	3.663	1.700	4.111	2.093	3.690	1.727	2.859	0.037	Significant

Source: Computed data

Table 4.14 reveals that the tribal respondent's family with two earning members are accessing the financial institutions like Co-operative societies with a mean score of 2.724, Regional Rural Banks with a mean score of 3.014, Post Office with a mean score of 3.680, Commercial Banks with a mean score of 3.370, Non-Banking Financial Companies with a mean score of 5.040.

Further the tribal respondents with age group of 41-45 years were accessing the Non-Governmental Agencies with a mean score of 3.889, Micro Finance Institutions with a mean score of 4.111 for their financial support.

The resulted significant value shows that the accessibility of financial institutions varies with earning members of the tribal respondents were highly significance for Co-operative Society(0.000) and Commercial Banks (0.000). Regional Rural Banks(0.009), Post Office(0.035), NBFC(0.000) and Linkage with Micro Finance Institutions (0.036) were resulted with five percent level of significance.

Further the calculated test statistics presented in Table 4.14 reveals that there is a significant association that exist between earning members of the family and access towards financial institutions by the Tribal respondents. Therefore the null hypothesis(H_0) is rejected.

4.3.10 Regional Location and Access towards Financial Institutions

In this study, the tribal respondents reside in hilly areas such as Udthagamandalam, Kotagiri, Coonoor, Panthalur, Kundah, and Gudalur. Not all financial institutions have established their operations in these study areas. To understand the significant mean difference, if any ANOVA test has been analyzed between Regional Location and access towards various financial institutions of tribal respondent's hypothesis was framed.

H_{01} : There is no significant mean difference between Regional Location and Access to various Financial Institutions by the Tribal Respondents

H_{a1} : There is a significant mean difference between Regional Location and Access to various Financial Institutions by the Tribal Respondents

Hence the region-wise access to financial institutions by the respondents has been analyzed and the results are presented in Table 4.15.

Table 4.15 Regional Location and Access towards Financial Institutions

Institutions	Ooty		Gudalur		Kundah		Panthalur		Kotagiri		Coonoor		F Value	Sig.	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	2.200	0.405	2.800	0.405	2.923	0.268	2.333	0.482	2.490	0.501	2.600	0.490	26.304	0.000	Significant
Regional Rural Banks	2.931	0.290	3.025	0.158	2.971	0.259	3.083	0.282	3.125	0.335	3.125	0.354	4.751	0.000	Significant
Local Post Office	3.338	0.474	3.400	0.496	3.462	0.501	2.981	0.284	3.800	0.405	3.469	0.500	16.170	0.000	Significant
Commercial Banks	4.000	1.002	3.800	0.992	3.615	0.928	4.333	0.963	4.600	0.810	3.943	1.000	8.912	0.000	Significant
Non-Governmental Organizations	3.853	1.357	3.600	1.215	4.154	1.467	4.000	1.445	4.800	1.488	3.986	1.411	4.922	0.000	Significant
NBFC (Non-Banking Financial Corporation)	3.667	1.494	3.800	1.620	3.698	0.847	4.333	1.926	4.600	1.985	3.629	1.457	9.939	0.000	Significant
Micro-Finance Institutions	3.637	1.671	4.000	2.025	3.690	1.727	3.667	2.408	4.000	1.481	3.451	0.635	11.231	0.000	Significant

Source: Computed data

Table 4.15 reveals that the tribal respondents residing in Kotagiri are closely linked with the various financial institutions like Regional Rural Banks with a mean score of 3.125, Post office with a mean score of 3.800, Commercial Banks with a mean score of 4.600, NBFC's with a mean score of 4.800, NGO'S with a mean score of 4.600, Micro Finance Institutions with a mean value of 4.000. Since the tribal people around Kotagiri will easily able to access the local Post office, NGO'S, NBFC's, MIF's, Commercial Banks, RRB's and with Co-operative societies. These institutions are in and around 16 kms from the tribal respondents of Kotagiri. So they can access easily and avail loans and advances for inclusive finance.

The resulted significant value shows that the accessibility of financial institutions varies with Regional location of the tribal respondents are highly significant. Further the calculated test statistics presented in Table 4.15 reveals that there is a significant association that exist between regional location of the tribal respondents and access towards financial institutions. Therefore, the null hypothesis (H_0) is rejected.

4.3.11 Community and Access Towards Financial Institutions

In order to understand the mean difference between Community of the tribal respondents and access towards various financial institutions of tribal respondents

H_{07} : There is no significant mean difference between Community and Access to various Financial Institutions by the Tribal Respondents

H_{a7} : There is a significant mean difference between Community and Access to various Financial Institutions by the Tribal Respondents

ANOVA test have been analysed and the results are presented in Table 4.16.

Table 4.16 Community and Access towards Financial Institutions

Institutions	Irular		Kattunayakan		Kota		Korumba		Paniya		Toda		F Value	Sig.	Result
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Co-operative Societies	1.492	0.501	1.800	0.405	1.909	0.289	1.485	0.508	1.667	0.482	1.333	0.476	15.793	0.000	Significant
Regional Rural Banks	1.947	0.288	2.050	0.316	1.989	0.239	1.879	0.331	2.083	0.282	2.063	0.245	3.394	0.005	Significant
Local Post Office	2.833	0.377	1.981	0.284	2.545	0.501	2.758	0.435	2.667	0.482	2.364	0.482	21.355	0.000	Significant
Commercial Banks	3.333	0.953	2.400	0.810	2.727	0.968	2.485	0.870	3.333	0.963	3.091	0.999	8.237	0.000	Significant
Non-Governmental Organizations	4.000	1.429	3.800	1.488	3.091	1.451	3.545	1.523	3.000	1.445	2.401	1.024	18.329	0.000	Significant
NBFC (Non-Banking Financial Corporation)	4.000	2.021	2.986	1.411	2.364	1.157	1.600	0.490	3.333	1.926	2.556	1.388	15.220	0.000	Significant
Micro-Finance Institutions	4.500	2.526	2.629	1.457	2.455	1.446	2.690	1.727	3.667	2.408	2.481	1.479	18.469	0.000	Significant

Source: Computed data

Table 4.16 reveals that the Irular tribal respondents are closely linked with the various financial institutions like Micro Finance Institutions with a mean score of 4.500), NGO'S with a mean score of 4.000 , NBFC's with a mean score of 4.000, Commercial Banks with a mean score of 3.333, Post Office with a mean score of 2.833. Since the Irular respondents are residing nearby to Kotagari and they can easily access the financial institutions for their financial inclusion. The Paniya respondents are accessing Regional Rural Banks with a mean score of 3.125 for financial inclusion. Further the Kotha's are accessing Co-operative Societies with a mean score of 1.909.

The resulted significant value shows that the accessibility of financial institutions varies with Community of the tribal respondents are highly significant. Further the calculated test statistics presented in Table 4.16 reveals that there is a significant association that exist between community of the tribal respondents and access towards financial institutions.

Overall there is a significant association exist between the Socio-Economic profile of tribal respondents like gender, age, educational qualification, occupation, earning members, regional location, community and access towards various financial institutions. Hence the null hypothesis (H_0) is rejected and it is proved that tribal respondents access towards various financial institutions for financial inclusion exist significantly.

4.4 Benefits Derived through Financial Inclusion by the Tribal Respondents

Financial inclusion must be seen as closely intertwined with the process of financial sector development. If inclusion means access to banking, then those services need to be closer to where the people are offering deposit-taking, payment processing, micro-financing, mortgages, and insurance. In other words, all of the products and services that fuel investment, create jobs and stimulate growth (IMF, 2018).

The Government has systematically been working towards this aim through various schemes and programs ensuring that the financial inclusion benefits of the country reach the poorest, tribal, and remotest parts of India. Financial inclusion is an important step in this direction to provide secure, efficient, and timely access to the tribal respondents of the nation. The push for digital India was against the backdrop of the aim to provide financial services to every person in the nation and include them in the progress of the nation.

Access to financial services opens doors for tribal families, allowing them to smooth out consumption and invest in their futures through education and health. Access to credit enables tribal people to expand, creating jobs and reducing inequality. Financial inclusion is the bridge between economic opportunity and outcome. Improved financial stability is the result of successful financial inclusion, as individuals have access to a range of financial products and services that can help them manage their finances more effectively.

Before entering into the stream of financial services the tribal respondents depended on the informal financial agencies for their financial support. After several initiatives taken by the Government, financial inclusion measures were spread throughout the nation without any discrimination. Banks, Financial institutions, and others were set up. A shift in sources of borrowings among tribal respondents happened after financial inclusion.

4.4.1 Shift in Sources of Borrowings among Tribal Respondents

In order to identify whether the respondents had a shift in the preference of sources of borrowings after entering into the financial stream the following analysis is conducted and depicted in Table 4.17

Table 4.17 Shift in Sources of Borrowings of the Tribal Respondents

Stage	Sources of borrowing	No. of Respondents (N:420)	Percentage (%)
Before Entering into the Financial Stream	Friends	140	33
	Close Relatives	50	12
	Local Money Lenders	198	47
	Local traders (Daily Rotation)	24	6
	Pledging Gold Jewellery (Pawn Brokers)	8	2
After Entering into the Financial Stream	Banks led Self Help Groups	170	40
	NGO's	99	24
	Co-operative Societies	16	4
	Regional Rural Banks	27	6
	Non-Banking Financial Companies	108	26

Source: Primary Data

Table 4.17, Figure 4.7, and 4.8 reveals that before entering into the financial stream most of the tribal respondents (47 percent) depended on local money lenders for their loan requirement. 33 percent of the tribal respondents approach their friends for their urgent money requirements. 12 percent of them depend on local traders for daily rotation. Before entering the financial inclusion stream, they were not approached the formal financial agencies for their loan requirement and mainly depended on local available sources. The rate of interest charged by these lenders is also very high.

After entering into the financial stream 40 percent of tribal respondents borrowed from bank-led Self-Help Groups. 26 percent of the tribal respondents borrowed money from non-banking financial companies, 24 percent of them borrowed credit through NGOs, six percent of them borrowed from Regional Rural Banks and remaining four percent of tribal respondents availed credit from Co-operative societies respectively. Most tribal respondents (40.48 percent) borrowed credit from banks through Self Help Groups after financial inclusion. It is also observed that the tribal respondents depend on local money lenders (47 percent) for their financial support before financial inclusion.

The study found that 40 percent of the tribal respondents have borrowed financial services from bank led Self Help Groups after entering into financial stream. They also approaching formal financial institutions for their credit requirement resulted in emergence of financial inclusion among tribal respondents.

Figure 4.7 Sources of Borrowings among the Tribal Respondents Before Entering into the Financial Stream

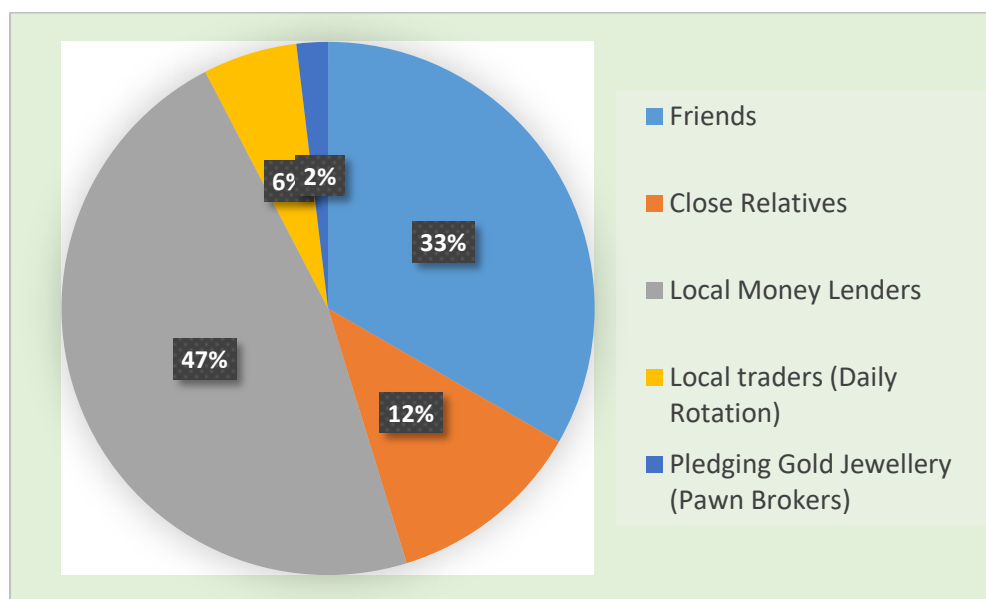


Figure 4.8 Sources of Borrowings among the Tribal Respondents After Entering into the Financial Stream

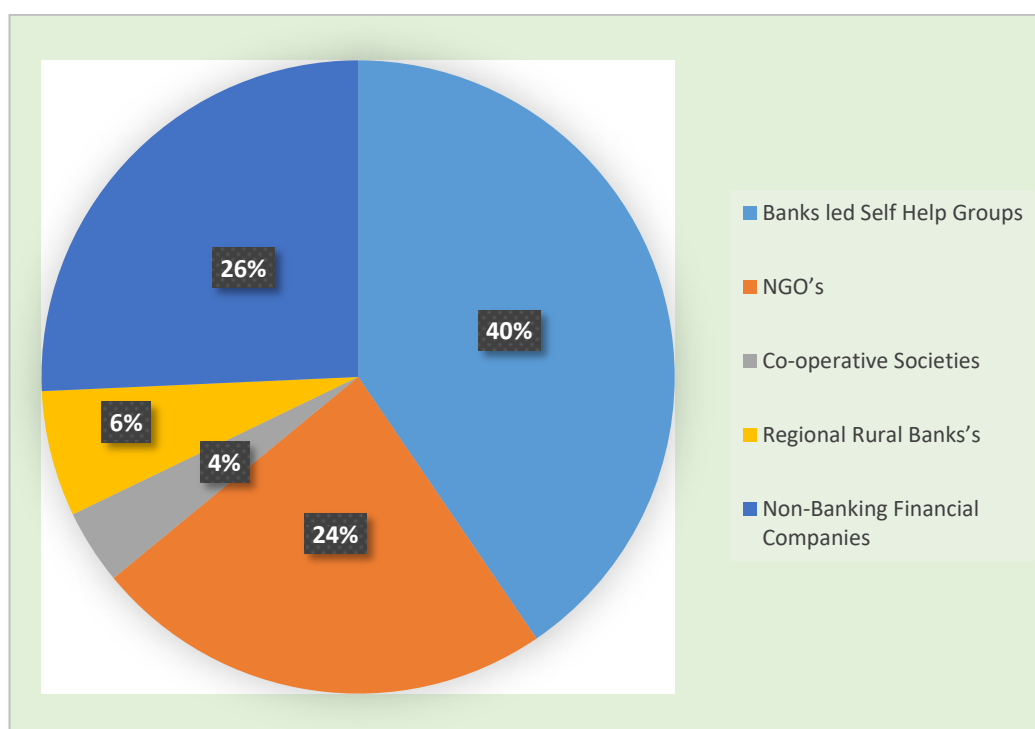


Table 4.18 Amount Borrowed by the Tribal Respondents Before and After Entering into Financial Stream

Amount borrowed (in ₹)	Before		After	
	No. of Respondents (n=420)	Percentage (%)	No. of Respondents (n=420)	Percentage (%)
Less than 25,000	281	67	35	8
25,001- 75,000	122	29	125	30
75001- 1,25,000	17	04	147	35
1,25,001-2,00,000	0	0	113	27

Source: Primary Data

The table 4.18 display that before entering into financial stream, 67 percent of the respondents borrowed amount up to ₹ 25000. Whereas 35 percent of the tribal respondents borrowed credit up to ₹ 75,001-1, 25,000 after financial inclusion. The borrowing capacity of the tribal respondents increased drastically after entering into financial stream. Before entering into financial stream 29 percent of the tribal respondents borrowed money up to ₹ 25001-75000 whereas after financial inclusion 30 percent of the respondents borrowed

amount up to ₹ 25001-75000. Before entering into financial stream four percent of the respondents borrowed money upto ₹ 750001-1,25,000. After entering into financial stream 27 percent of them borrowed up to ₹ 1,25,000-2,00,000. After entering into financial stream only Eight percent of the respondents borrowed up to ₹ 25000. It is understood from the above table that, before entering into financial stream the borrowing capacity of the tribal respondents was not exceeded to the amount of ₹ 1,25,000, due to less in the avenues of borrowings credit from the financial institutions. After entering into financial stream the borrowing capacity of the tribal respondents was increased, 27 percent of the respondents borrowed up to ₹ 1,25,001-2,00,000.

Table 4.9 Amount Borrowed by the Tribal Respondents Before and After Entering into Financial Stream

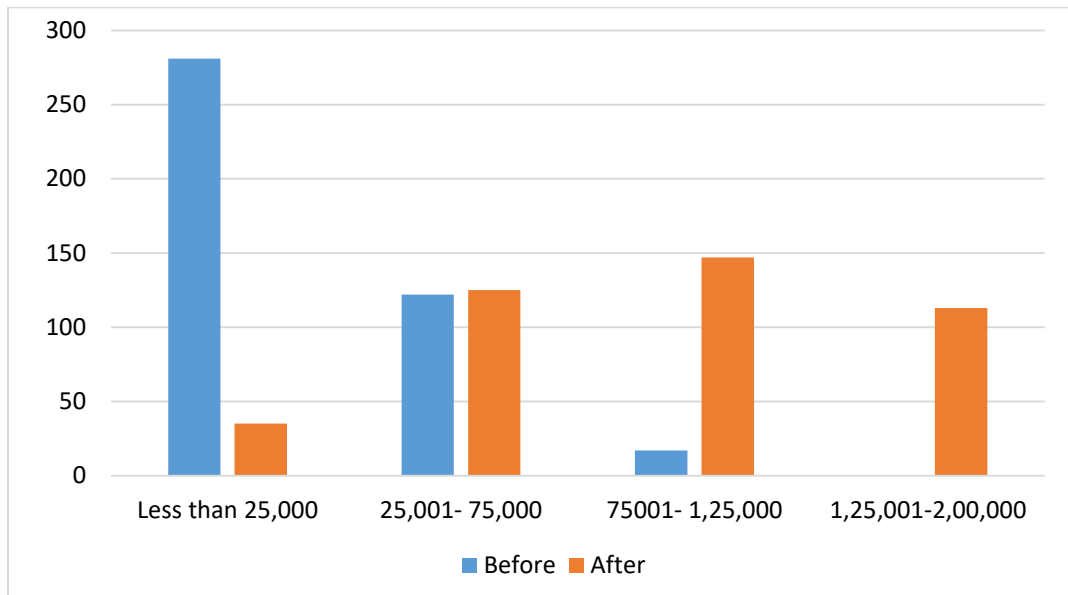


Table 4.19 Utilisation of funds Raised by the Tribal Respondents

Variables	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Sum	Mean	Rank
Economic Activities								
Start of New Business	213 (50.71)	138 (32.86)	52 (12.38)	9 (2.15)	8 (1.90)	1799	4.28	2
Business Development	228 (54.29)	115 (27.38)	60 (14.29)	0 (0.00)	17 (4.04)	1797	4.28	2
Working Capital Needs	206 (49.05)	146 (34.76)	52 (12.39)	8 (1.90)	8 (1.90)	1794	4.27	4
Agricultural Purpose (Buying Inputs /Equipment/Machinery)	273 (65.00)	138 (32.86)	9 (2.14)	0 (0.00)	0 (0.00)	1944	4.63	1
Wealth Creation and Skill Development								
To Build Wealth/Assets/Investment	251 (59.76)	113 (26.92)	40 (9.52)	8 (1.90)	8 (1.90)	1851	4.41	2
For Repayment of Household Debt	234 (55.71)	146 (34.77)	40 (9.52)	0 (0.00)	0 (0.00)	1874	4.46	1
For Upskilling (Training /Learning)	235 (55.95)	113 (26.90)	64 (15.25)	8 (1.90)	0 (0.00)	1835	4.37	3
Improvement on Standard of Living								
Children's Higher Educational Expense	289 (68.81)	48 (11.43)	49 (11.67)	25 (5.95)	9 (2.14)	1843	4.39	3
Household durables	254 (60.48)	74 (17.62)	58 (13.80)	16 (3.81)	18 (4.29)	1790	4.26	6
Purchase of Vehicles	190 (45.24)	131 (31.19)	82 (19.53)	8 (1.90)	9 (2.14)	1745	4.15	7
Excruciating expenses	214 (50.95)	132 (31.43)	57 (13.58)	8 (1.90)	9 (2.14)	1794	4.27	5
Social Financial Needs	247 (58.81)	115 (27.38)	58 (13.81)	0 (0.00)	0 (0.00)	1869	4.45	1
Consumption Purpose	280 (66.67)	73 (17.38)	49 (11.66)	0 (0.00)	18 (4.29)	1857	4.42	2
Medical Expenses	231 (55.00)	123 (29.29)	57 (13.57)	9 (2.14)	0 (0.00)	1836	4.37	4

Source: Computed Data

Economic Activities

The tribal respondents utilize borrowed credits from various financial institutions for economic activities are ranked and presented in the table 4.19 and Figure 4.10

Majority of the tribal respondents borrowed loans from various financial institutions mainly for agricultural purpose to procure inputs, agricultural equipment's etc., which would be useful for their productive purpose ranked first among economic activities with a mean score of 4.63. Further they raised credit for the purpose to start a new business with a mean score value of 4.28 and for the business development with a mean score value of 4.28 which ranks second. They also raise credits from institutions to meet out their working capital requirement with a mean score value of 4.27 among economic activities.

Wealth Creation and Skill Development

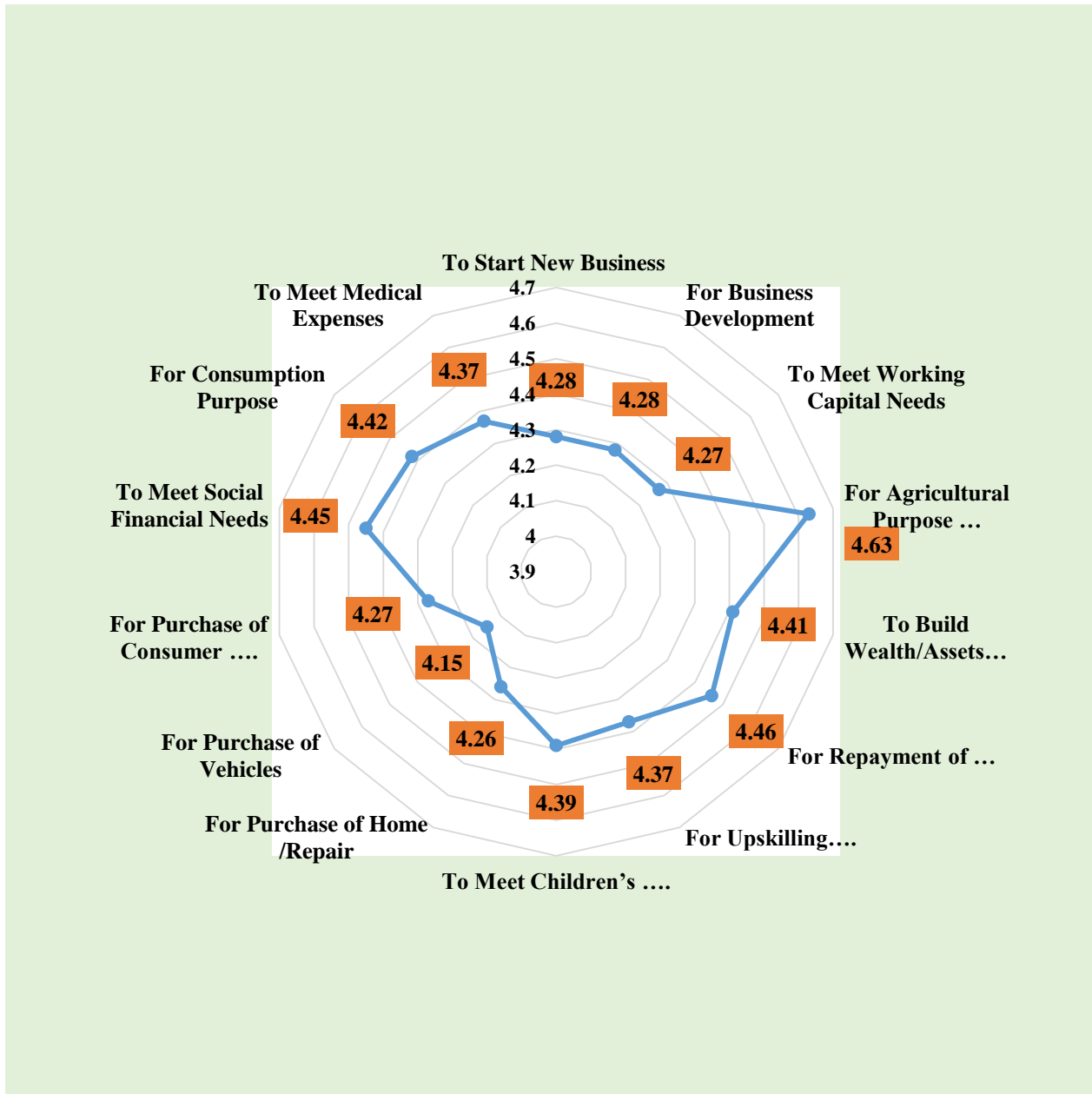
The tribal respondents borrowed credits and utilize amount for wealth creation and skill development are presented in table 4.19 and Figure 4.10. Respondents utilize the funds for repayment of household debt with a mean score of 4.46 which ranks first. They also utilize the funds to build wealth/assets/investment with a mean score of 4.63 which ranks second and for skill development with a score of 4.19 which was ranked third.

Improvement in Standard of Living

It understood from the that Table 4.19 and Figure 4.10. most of the tribal respondents raised credit from various financial institutions to meet social, financial needs with a mean score of 4.45 which ranks first among improvement of life standard and social empowerment. The other reasons for utilizing credit were consumption purpose with a mean score of 4.42, to meet children's educational expense with a mean score of 4.45, for purchase of home /repair with a mean score of 4.45, to meet medical expenses with a mean value of 4.45, and for purchase of vehicles with a mean score of 4.45.

Hence, it has been cleared that majority of the tribal respondents raised credit from formal financial agencies for agriculture purpose (buying inputs /equipment/machinery), to repayment household debt and to meet expenses for the business development. All these measures would lead to upliftment of the tribal respondents. Hence the involvement in raising credit, utilizing for the productive purpose increase their financial position and standard of living which leads to empowerment of tribal respondents.

Figure 4.10
Purposes of Raising Credits from Formal Financial Agencies by the Tribal Respondents



4.4.2 Benefits Derived by the Tribal Respondents through Financial Inclusion

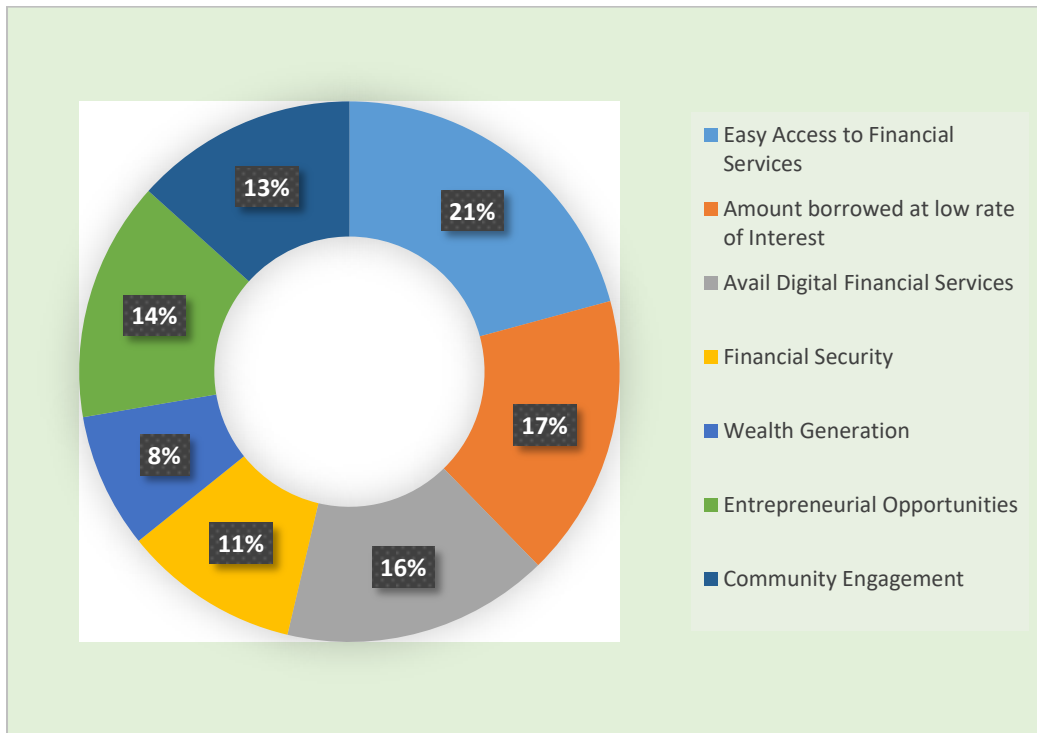
Table 4.20 Benefits Derived by the Tribal Respondents through Financial Inclusion

Variables	No. of Respondents (*) (N:420)	Percentage (%)
Easy Access to Financial Services	268	63.80
Amount borrowed at low rate of Interest	218	51.90
Avail Digital Financial Services	206	49.04
Financial Security	136	32.38
Wealth Generation	104	24.76
Entrepreneurial Opportunities	185	44.04
Community Engagement	172	40.95

Source: Primary Data

*Multiple responses

Table 4.20 shows the various benefits derived by the Tribal respondents through financial inclusion. Majority (63.80 percent) of the respondents stated that ‘Easy Access to financial Services’ is the primary benefit derived through financial inclusion. 51.90 percent of the respondents stated that ‘Amount borrowed at low rate of Interest’. 49.04 percent of the respondents stated that ‘Avail Digital Financial Services’ another important benefits derived out of Financial Inclusion. 44.04 percent of the respondents stated that they enjoyed the benefit of ‘Entrepreneurial Opportunities’. 40.95 percent of tribals got the benefit of ‘Community Engagement’. 32.38 percent of the tribal respondents enjoyed ‘Financial Security’ benefit. 24.76 percent of the tribal respondents gained ‘Wealth Generation’ benefit. It is revealed from the above table that most of the tribal respondents enjoyed the benefit of ‘Easy Access to financial Services’, ‘Amount borrowed at low rate of Interest’ and they ‘Availed Digital Financial Services’.



4.5 Financial Inclusion Among the Tribal Respondents

Through financial inclusion number of benefits realized by the tribal respondents is high who are geographically socially and economically deprived. Table 4.5 shows the effect of financial inclusion among tribal respondents.

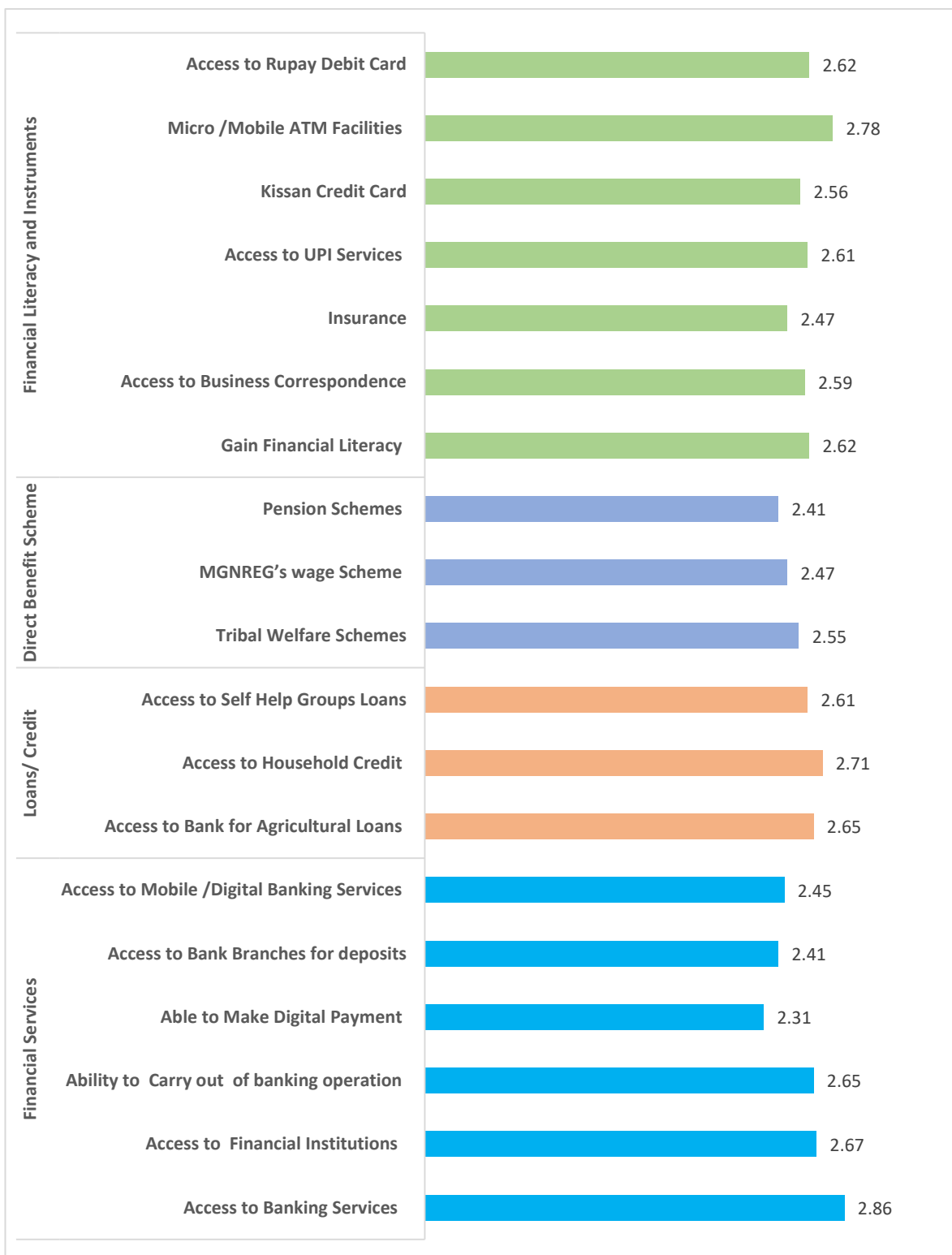
Table 4.21 Financial Inclusion Among the Tribal Respondents

Variables	High	Medium	Low	Sum	Mean	Outcome with Rank	
Financial Services						Within the group	overall
Access to Banking Services	371 (88.33)	40 (9.53)	9 (2.14)	1202	2.86	1	1
Access to Financial Institutions	291 (69.29)	120 (28.57)	9 (2.14)	1122	2.67	2	4
Ability to Carry out of banking operation	289 (68.81)	114 (27.14)	17 (4.05)	1112	2.65	3	5
Able to Make Digital Payment	214 (50.95)	121 (28.81)	85 (20.24)	969	2.31	6	20
Access to Bank Branches for deposits	248 (59.05)	97 (23.10)	75 (17.85)	1013	2.41	5	18
Access to Mobile /Digital Banking Services	255 (60.71)	98 (23.33)	67 (15.96)	1028	2.45	4	17
Loans/ Credit							
Access to Bank for Agricultural Loans	306 (72.86)	81 (19.29)	33 (7.85)	1113	2.65	3	5
Access to Household Credit	322 (76.67)	73 (17.38)	25 (5.95)	1137	2.71	1	3
Access to Self Help Groups Loans	290 (69.05)	96 (22.85)	34 (8.10)	1096	2.61	2	9
Direct Benefit Scheme							
Tribal Welfare Schemes	264 (62.86)	121 (28.81)	35 (8.33)	1069	2.55	1	14
MGNREG's wage Scheme	231 (55.00)	154 (36.67)	35 (8.33)	1036	2.47	2	15
Pension Schemes	215 (51.19)	163 (38.81)	42 (10.00)	1013	2.41	3	18

Variables	High	Medium	Low	Sum	Mean	Outcome with Rank	
Financial Literacy and Instruments							
Gain Financial Literacy	288 (68.57)	106 (25.24)	26 (6.19)	1102	2.62	2	7
Access to Business Correspondence	281 (66.90)	106 (25.24)	33 (7.86)	1088	2.59	4	11
Insurance	230 (54.76)	156 (37.14)	34 (8.10)	1036	2.47	6	15
Access to UPI Services	281 (69.90)	114 (27.15)	25 (5.95)	1096	2.61	3	9
Kissan Credit Card	245 (58.33)	166 (39.53)	9 (2.14)	1076	2.56	5	12
Micro /Mobile ATM Facilities	345 (82.14)	58 (13.81)	17 (4.05)	1168	2.78	1	2
Access to Rupay Debit Card	288 (68.57)	106 (25.24)	26 (6.19)	1102	2.62	2	7

Source: Computed data

Figure 4.12 Financial Inclusion Among the Tribal Respondents



The Table 4.21 and Figure shows the outcomes of financial inclusion among tribal respondents after they were financial included.

The study found that tribal respondents got access to banking financial services (95.33 percent), got accessed to micro /mobile ATM facilities (92.67 percent), access to household credit (90.33 percent), universal access to various financial services (89 percent) and promote efficiency in conduct of banking operation, access to bank loans for business development (88.33 percent). These variables are ranked into first to fifth rank with mean score 2.86-2.65. Gain of financial literacy, access to debit card (87.33 percent) and access to Self Help Group's loan benefits, timely access to banking services (87 percent) are the other benefits realized by the financially included tribes. These variables are ranked into the seventh to ninth place with a mean score of 2.62-2.61 respectively.

The tribal respondents experienced freedom from local money lenders (86.33 percent), got option of access to multiple credit window (agencies), got access to smart card facilities (85.33 percent), able to get Government benefits credited to their bank account (85 percent) and able to get grievance redressal and got MGNREGS wages credited (82.33 percent). These variables are ranked into the eleventh to fifteenth place with mean score is 2.59-2.47. Further, tribal respondents said they got access to mobile /digital banking services (81.67 percent), access to bank branches, able to subscribe to insurance /pension schemes (80.33 percent) and able to make digital payment (77 percent). These variables are ranked into the seventh to twentieth place with mean score of 2.45-2.31 respectively.

Thus, it has been found that majority of tribal respondents got access to banking financial after financial inclusion and which leads to their social upliftment.

4.5.1 Factors Determining Financial Inclusion Among Tribal Respondents

Factor analysis was conducted to measure the effect of Financial and the related association between the variable i.e., the effect of the financial inclusion among tribal respondents after financial inclusion, considering the following variables, access to banking financial services, universal access to various financial services, promote efficiency in conduct of banking operation, able to make digital payment, access to bank branches, access to mobile /digital banking services, access to bank loans for business development, access to household credit, get Self Help Groups loan benefits, able to get Government benefits credited to the bank account (tribal), ease of grievance redressal, able to subscribe to insurance /pension schemes, gain financial literacy, freedom from local money lenders, get MGNREGs wages credited, timely access to banking services, multiple credit window (agencies), micro /mobile ATM facilities, access to smart card and access to debit card.

Table 4.22 KMO and Bartlett's Test of Financial Inclusion Among Tribal Respondents

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.821
Bartlett's Test of Sphericity Approx. Chi-Square	4860.014
DF	190
Sig	.000

Level of Significance: 5 percent

The value of KMO for the overall matrix of 20 variables was found to be excellent (0.821) and Bartlett's test of sphericity's chi-square value 4860.014 was highly significant at five per cent level of significance.

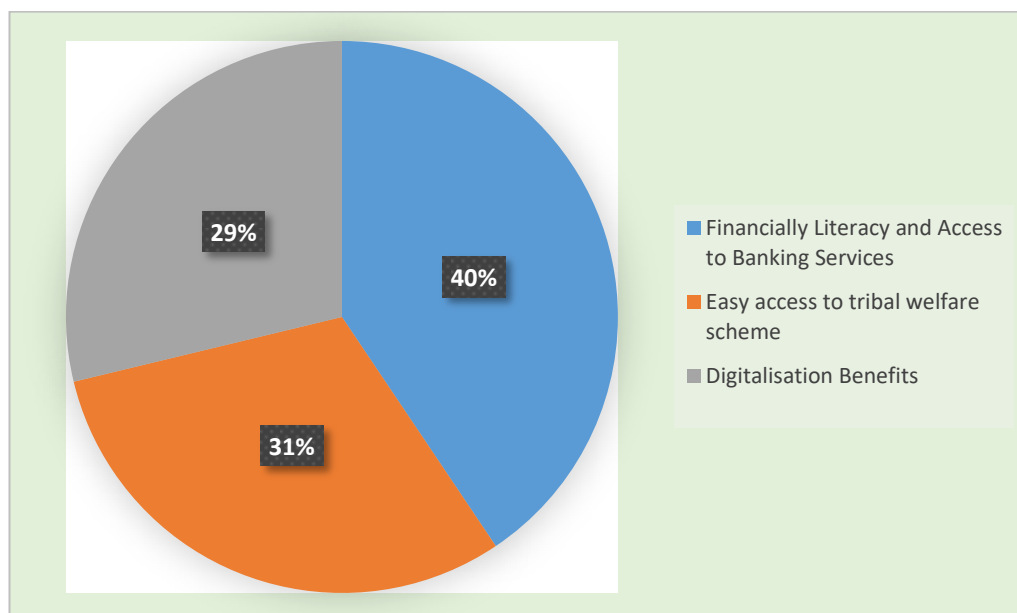
Table 4.22.1 Factors Determining Financial Inclusion Among Tribal Respondents

Variables	Factors			Extraction
	Financially Literacy and Access to Banking Services	Easy access to tribal welfare scheme	Digitalisation Benefits	
Access to Banking Services	0.762	-	-	0.891
Access to Various Financial Institutions	0.715	-	-	0.674
Ability to Carry out of Banking Operation	0.692	-	-	0.764
Access to Bank Loans for Business Development	0.734			0.796
Access to Household Credit	0.706			0.734
Gained Financial Literacy	0.771	-	-	0.820
Timely Access to Banking Services	0.865	-	-	0.818
Micro /Mobile ATM Facilities	0.731	-	-	0.708
Access to Debit Card	0.793	-	-	0.728
Access to Self Help Group's	-	0.803	-	0.948
Tribal welfare scheme	-	0.742	-	0.852
Access to Kissan Credit Card	-	0.603	-	0.881
MGNREGs Wage scheme	-	0.877	-	0.754
Pension schemes	-	0.623	-	0.866
Access to Credit Card		0.805		0.841
Able to Make Digital Payment	-	-	0.857	0.844
Access to Bank Branches for deposits	-	-	0.842	0.707
Access to Mobile /Digital Banking Services	-	-	0.663	0.759
Access to Insurance	-	-	0.734	0.871
Access to UPI services	-	-	0.862	0.870
Eigen Value	6.910	5.217	4.899	
% of Variance	34.551	26.085	24.493	
Cumulative	34.551	60.636	85.129	

Source: Computed data

Table 4.22.1 and Figure 4.13 reveals that the factor analysis result of outcomes of financial inclusion among of tribal respondents. It is clear that out of 20 variables, nine items were loaded into the first factor and they are related to the outcome of the financial inclusion like access to banking services and financial literacy among tribal respondents. The first factor is labelled as the “**Financial Literacy and Access To Banking Services**” effect. This factor highlights the access to banking services, access to various financial institutions, ability to carry out of banking operations, access to bank loans for business development, access to household credit, gained financial literacy, timely access to banking services, micro /mobile ATM facilities and access to debit card by the tribal respondents. It explained **34.551** percent of the variation in access to banking services among tribal respondents.

Figure 4.13 Factors Determining Financial Inclusion Among Tribal Respondents



Six items were loaded into second factor which reveals the tribal respondents have easy access to self-help groups, tribal welfare scheme, access to kisan credit card, MGNREGs wage scheme, pension schemes and access to credit card. This factor was titled as “**Easy Access to Tribal Welfare Scheme**” effect. It explained **26.085** percent of the variation in access to tribal welfare schemes among tribal respondents.

Five items loan were loaded into third factor which reveals the tribal respondents access to various digital payment services like able to make digital payment, access to bank branches for deposits, access to mobile /digital banking services, access to insurance, access to UPI services. This factor was titled as “**Digitization Benefits**” effect. It explained

24.493 percent of the variation in access to digital banking services among tribal respondents.

It has been observed that although there are 20 principal components only 12 factors have Eigen values over one.

4.6 Problems Faced by the Select Tribal Respondents

The tribal respondents were facing multiple problems, as they have suffered centuries of exploitation and discrimination and still living in poverty (Hussain et al., 2014). Before financial inclusion tribal respondents were considered the lowest class in the most regions due to isolation of location they have faced financial defacement. In order to understand the real time challenges faced by the tribal respondents, the responses were collected from them and descriptive statistics are presented in table 4.23

Table 4.23 Problems Faced by the Select Tribal Respondents

Variables	Sum	Mean	Rank
High rate of Interest charged on external borrowing	3977	9.47	2
Indebtedness due to huge amount of loan borrowed over the capacity to pay	4134	9.84	1
Poor Returns for Crops /Produces Pledged	2160	5.14	9
Loss of Valuable /Assets Pledged	2123	5.05	10
Threat from local money lenders	2103	5.01	11
Poor saving options	2530	6.02	7
Lack of financial advice	2938	7.00	5
Distance in access to banking service	3497	8.33	4
Neglected by formal financial agencies	3663	8.72	3
Limited access to formal financial institutions	2358	5.61	8
Lack of infrastructure development (Road/ Electricity/ Internet etc.)	2533	6.03	6

Source: Primary Data

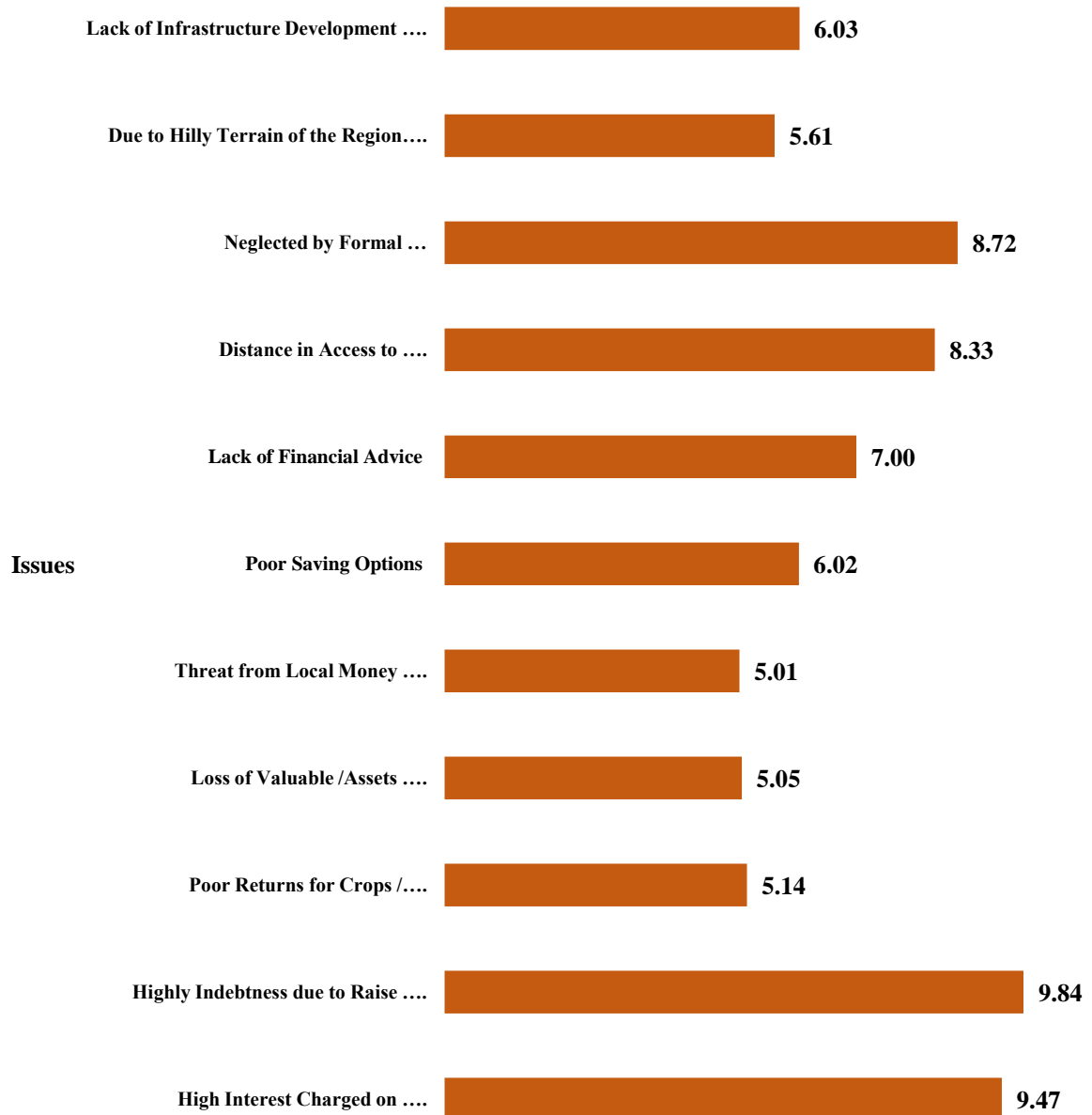
The table 4.23 and Figure 4.14 revealed that tribal respondents faced various challenges before they were financially included. The majority of the tribal respondents were highly indebted due to raise in credit value borrowed through informal lending sources which was ranked first with a mean score of 9.84. Majority of the tribal

respondents suffered from high interest rate charged on external borrowing which was ranked second with a mean of 9.47. Majority of the tribal respondents suffered from the negligent approach by formal financial agencies and ranks third with a mean of 8.72 before their involvement in financial inclusive measures.

Another important hindrance faced by the tribal respondents before financial inclusion was distance in access to banking service which ranks fourth. Lack of financial advice was the problem faced by the tribal respondents which ranks fifth with a mean of 7.00. Majority of the respondents felt that lack of infrastructure development was a great problem which they faced before financial inclusion, ranks sixth with a mean value of 6.03. Majority of the tribal respondents felt that they did not have adequate income for saving options which ranks seventh with a mean value of 6.03. Most of the select tribal respondents felt that due to hilly terrain of the region they faced problem in access to formal credit which ranks eighth with a mean value of 5.61, The tribal respondents also faced problems like poor returns for crops /produces pledged, loss of valuable /assets pledged and threat from local money lenders which was resulted with ninth, tenth and eleventh rank.

It is inferred that majority of the tribal respondents faced problem of highly indebtedness due to raise of their informal credit value which were not repaid on time. The tribal respondents also faced problem of high rate of interest charged by the informal sectors and money lenders.

Figure 4.14 Problems Faced by the Select Tribal Respondents



However, in order to understand the key underlying challenges experienced by the Tribal respondents in their financial inclusion, factor analysis was conducted.

4.6.1 Key Challenges Faced by the Select Tribal Respondents Regarding Financial Inclusion

Factor analysis was conducted to arrive at the key challenges faced by the tribal respondents. From the responses, the challenges were identified and factorized. The challenges faced by them namely, the high interest charged on external borrowing, highly indebtedness due to raise in credit value, poor returns for crops /produces pledged, loss of valuable /assets pledged , threat from local money lenders, poor saving options, lack of financial advice, distance in access to banking service, neglected by formal financial agencies, due to hilly terrain of the region inaccessibility to formal financial institutions and lack of infrastructure development these challenges were factorized

The KMO and Bartlett’s Test of Sphericity was carried out to identify the factors influencing on the key challenges faced by the tribal respondents before financial inclusion.

Factor analysis is commonly called as the data reduction method. It is used to reduce many variables resulting in data complexity to a few manageable factors. To identify the factors of financial inclusion among tribal respondents, factor analysis was done. The KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy has been used to evaluate the reliability of the factor analysis approach. It is noted that the KMO value is greater than 0.50, indicating that factor analysis could be used for the given set of data. Further, Bartlett’s test of Sphericity indicates that the correlation coefficient matrix is significant, as indicated by the p-value corresponding to the Chi-Square statistic. Varimax rotation was used to group the variables. It ensured that the factors are independent and unrelated to each other. Table 4.24 presents the KMO and Bartlett’s Test results.

Table 4.24 KMO and Bartlett’s Test of Key Challenges Faced by the Select Tribal Respondents Regarding Financial Inclusion

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.862
Bartlett’s Test of Sphericity Approx.	Approx. Chi-Square	3032.726
	Degree of freedom	55
	Significance	0.000

Level of Significance: 5 per cent

The value of KMO for the overall matrix of eleven variables was found to be excellent (0.862) and Bartlett’s test of sphericity’s chi-square value 3032.726 was highly significant at five per cent level of significance.

**Table 4.24.1 Key Challenges Faced by the Select Tribal Respondents Regarding
Financial Inclusion**

Variables	Factors					Extraction
	Neglected by Formal Financial Institutions	Inaccessibility to Formal Financial Institutions	Lack of Infrastructure to Access the Financial Services	Regional and Occupational Hindrance	Economic Exclusion	
High Interest Charged on External Borrowing	0.952	-	-	-	-	0.669
Highly indebtedness due to Raise in Credit Value	0.867	-	-	-	-	0.871
Neglected by Formal Financial Agencies	0.804	-	-	-	-	0.811
Lack of Financial Advice	-	0.843	-	-	-	0.846
Distance in Access to Banking Service	-	0.718	-	-	-	0.952
Poor Saving Options	-	-	0.791	-	-	0.783
Lack of Infrastructure Development (Road/ Electricity/ Internet etc.)	-	-	0.884	-	-	0.833
Poor Returns for Crops /Produces Pledged	-	-	-	0.871	-	0.806
Financial services denied due to hilly region	-	-	-	0.851	-	0.779
Loss of Valuable /Assets Pledged	-	-	-	-	0.891	0.908
Threat from Local Money Lenders	-	-	-	-	0.833	0.869
Eigen Value	3.286	2.458	1.791	0.816	0.775	
% of Variance	29.873	22.341	16.286	7.420	7.048	
Cumulative	29.873	52.214	68.500	75.920	82.969	

Source: Computed data

Table 4.24.1 presents the result of the factor analysis of challenges faced by the tribal respondents. It is clear that out of 11 variables, three items were loaded into the first factor and they were related to challenges faced being neglected by formal financial agencies before financial inclusion by the tribal respondents. The first factor was labeled as **“Neglected by Formal Financial Institutions”**. This factor highlights that challenges faced by tribal respondents were high interest charged on external borrowing (0.954), high indebtedness due to huge borrowing above the capacity to, and tribal respondents were neglected as non-formal financial agencies. Factor 1 explained 29.873 percent of the variation in challenges faced by tribal respondents.

Two items were loaded into the second factor, which reveals that the tribal respondents faced challenges due to a lack of financial advice and distance in access to banking services and it was labelled as **“Inaccessibility to Formal Financial Institutions”**. Factor 2 explained 22.341 percent of the variation in challenges faced by tribal respondents.

Two items were loaded into third factor, which reveals the tribal respondents faced challenges due to poor saving options and lack of infrastructure development and it was labeled as **“Lack of Infrastructure to Access the Financial Services”**. Factor 3 explained 16.286 percent of the variation in challenges faced by tribal respondents.

Two items were loaded into fourth factor, which reveals that the tribal respondents faced problems due to poor returns from crop cultivation /pledging of produces and due to hilly terrain of the region no formal financial institutions were functioning and it was labeled as **“Regional and Occupational Hindrance”**. Factor 4 explained 7.420 percent of the variation in challenges faced by tribal respondents.

Two items were loaded into fifth factor, which reveals that the tribal respondents faces problems due to loss of valuable assets pledged and threat from local money lenders and it was labeled as **“Economic Exclusion”**. Factor 5 explained 7.048 percent of the variation in challenges faced by tribal respondents.

It is inferred that all five factors explained cumulative variance of 82.96 percent on the challenges faced by the tribal respondents before the financial inclusion. The major cause for financial exclusion of the sample respondents was the non-availability of formal financial services and lack of access to formal financial institutions. The cumulative value highlights the respondents inability to access the banks as it is situated at a distance place from their locality where they live.

4.7 Economic Independence, Social Participation and Financial Decision Making of the Tribal respondents

In order to understand the impact of financial inclusion on ‘Economic Independence’, ‘Social Participation’ and ‘Financial decision making’ which paves way for Empowerment of tribal respondents, mean value were calculated and ranked based on mean value computed and presented in the table 4.25

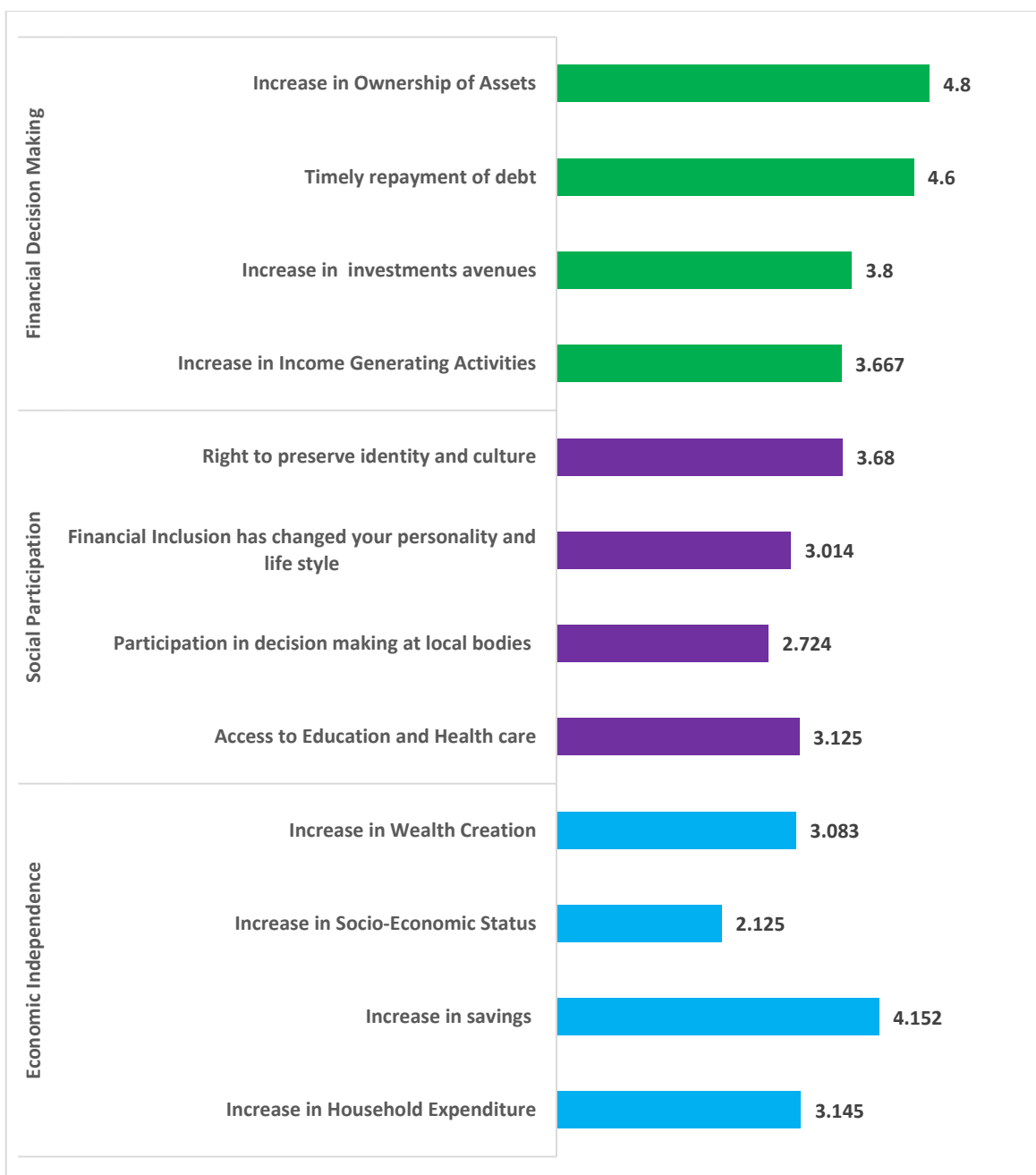
Table 4.25 Economic Independence, Social Participation and Financial Decision making of the Tribal Respondents

Variables	Categories	Mean	SD	Within variables Rank	Overall rank
Economic Independence	Increase in Household Expenditure	3.145	0.387	II	VII
	Increase in savings	4.152	0.654	I	III
	Increase in Socio-Economic Status	2.125	0.354	IV	XII
	Increase in Wealth Creation	3.083	0.282	III	IX
Social Participation	Access to Education and Health care	3.125	0.335	II	VII
	Participation in decision making at local bodies	2.724	0.248	IV	XI
	Financial Inclusion has changed your personality and life style	3.014	0.265	III	X
	Right to preserve identity and culture	3.680	0.376	I	V
Financial Decision Making	Increase in Income Generating Activities	3.667	0.366	IV	VI
	Increase in investment avenues	3.800	0.405	III	IV
	Timely repayment of debt	4.600	0.410	II	II
	Increase in Ownership of Assets	4.800	0.488	I	I

Source: Computed data

Table 4.25 and Figure 4.15 reveals that the Economic independence of tribal respondents after financial inclusion is closely linked with their decisions related to savings with a mean score of 4.152, increase in household expenditures with a mean score of 3.145, increase in wealth creation with a mean score of 3.083 and increase in socio-economic status of the tribal respondents with a mean score of 2.125. All the variables related to economic independence will leads to ‘Economic Empowerment’ of the tribal respondents.

Figure 4.15 Economic Independence, Social Participation and Financial decision making of the Tribal respondents



Regarding the social participation of the tribal respondents after financial inclusion, the variable right to preserve identity and culture of the tribal respondents are closely linked with social participation with a mean score of 3.680 which ranks first among other variables. The variable, Access to Education and Health care is linked with Social Participation with a mean score of 3.125, which ranks second, Financial Inclusion has changed your personality and lifestyle is linked with Social Participation with a mean score of 3.014 which ranks third, and participation in decision making at local bodies is

linked with social participation with a mean score of 2.724 which ranks fourth. All the variables related to social participation will leads to ‘Social Empowerment’ of the tribal respondents.

Financial decision-making of the tribal respondents after financial inclusion is closely linked with an increase in ownership of assets with a mean score of 4.800 which ranks first among other variables, timely repayment of debt is another factor that is linked with financial decision-making with a mean score of 4.600 which ranks second, the variable access to investments avenues is linked with a mean score of 3.800 which ranks third and the variable increase in income generating activities with a mean score of 3.667 ranks fourth. The financial decision-making variables leads to the Financial Empowerment of tribal respondents.

4.8 Determinants of Economic Empowerment of Tribal Respondents through Financial Inclusion

Empowerment relies on the idea of providing employment, skills, resources, authority, opportunity, and motivation, as well as holding them responsible and accountable for the outcome of their actions, with capability and satisfaction (Mohd Rafi Paray, 2019). Tribal empowerment is dependent on many different variables including educational status, social status, and geographical location of the tribal respondents.

Empowerment is a process that enhances the ability of disadvantaged and powerless individuals or groups to challenge and change in their favor, existing power relationship that places them in subordinate economic, social, and political positions (Bina Agarwal 2013). The tribal people because of the nature of their livelihood and mode of living face various problems which range from the underdevelopment of human capital to their being deprived of economic benefits. This restricted their growth opportunities and several initiatives were required for the economic empowerment of tribal people (Ministry of Tribal Affairs). The Government of India has introduced several policies that aim at the holistic development of tribal communities for removing deficiencies and ensuring optimum growth which leads to empowerment. Among them, schemes for financial inclusion are the flagship scheme. The socio-economic profile of the tribal population will facilitate to promote them and bring them into the mainstream of the nations (Achintan Bhattacharya, 2011).

To determine the empowerment of the tribal respondents, hypotheses were framed

H_0 : Socio-economic variables and financial inclusion initiatives do not influence the Economic/ Social/ Financial/ Overall Empowerment of Tribal Respondents

H_a : Socio-economic variables and financial inclusion initiatives do influence the Economic/ Social/ Financial/ Overall Empowerment of Tribal Respondents

A multiple regression model was considered. The regression model is designed to find the most parsimonious set of predictors that are most effective in predicting the dependent variable. Multiple regression was used as a data-analytic strategy to explain or predict a criterion (dependent) variable with a set of predictor (independent) variables (Wampold Freund, 1987).

As empowerment is examined in three dimensions, three equation models were fit by considering Economic Empowerment, Social Empowerment, Financial Empowerment, and Overall Empowerment as dependent variables (Y) for each of the models.

Where

Y = is a dependent variable which denotes Economic Empowerment / Social Empowerment/ Financial Empowerment /Overall Empowerment

Independent Variables

Socio-Economic Variables

X_1 = Education

X_2 = Occupation

X_3 = No. of Earning Members in the family

X_4 = Monthly Income of the family

X_5 = Regional Location

Banking Services

X_6 = Access to Banking Services

X_7 = Access to various Financial Institutions

X_8 = Ability to Carry out of Banking Operation

X_9 = Able to Make Digital Payment

X₁₀ = Access to Bank Branches for deposits

X₁₁ = Access to Mobile /Digital Banking Services

Access to Loans/Credit

X₁₂ = Access to Banks for Agricultural Loans

X₁₃ = Access to Household Credit

X₁₄ = Access to SHGs Loans

Direct Benefit Scheme

X₁₅ = Tribal welfare schemes

X₁₆ = MGNREG'S wage scheme

X₁₇ = Pension Schemes

Financial Literacy and Financial Instruments

X₁₈ = Gained Financial Literacy

X₁₉ = Access to Business Correspondence

X₂₀ = Insurance

X₂₁ = Access to UPI Services

X₂₂ = Kissan Credit Card

X₂₃ = Micro /Mobile ATM Facilities

X₂₄ = Access to Rupay Debit Card

X₂₅ = Access to Credit Card

4.8.1 Determinants of Economic Empowerment of Tribal Respondents

Economic Empowerment is the capacity of tribal respondents to participate in, contribute to, and benefit from growth processes in ways that recognize the value of their contributions, respect their dignity, and make it possible to negotiate a fairer distribution of the benefits of growth. Economic empowerment increases tribal respondents' access to economic resources and opportunities including jobs, financial services, property and other productive assets, skills development, and market information (Delavallade et al., 2015).

To have a comprehensive view of the Empowerment of the tribal respondents, considering their socio-economic profile and financial participation perception, Hypotheses were framed.

H_0 : Socio-economic variables and financial inclusion initiatives do not influence the Economic Empowerment of Tribal Respondents

The result of the regression is presented in the Tables 4.26 and 4.27.

Table 4.27 Determinants of Economic Empowerment of Tribal Respondents

Table 4.26 Relationship between Factors of Economic Empowerment ,Socio-Economic Variable and Financial Inclusion Initiatives

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.752 ^a	.566	.538	.65389	.566	20.537	25	394	.000

Variables	Unstand ardized β Co- Efficient	Stand ard Error	Sandardize d β Co-Efficient	t	P value	Tolera nce	VIF
Constant	6.400	0.422		15.165	0.000		
Education	0.151	0.042	0.183	3.613	0.000*	0.431	2.322
Occupation	-0.031	0.029	-0.057	-1.056	0.291	0.383	2.609
No. of Earning Members in the family	0.346	0.171	0.311	2.030	0.043	0.047	2.309
Monthly Income of the family	0.140	0.031	0.206	4.508	0.000	0.530	1.889
Regional Location	-0.158	0.169	-0.143	-0.932	0.352	0.047	2.391
Access to Banking Services	0.537	0.128	0.178	4.192	0.000*	0.612	1.634
Access to various Financial Institutions	-0.365	0.140	-0.153	-2.611	0.009	0.322	3.110
Ability to Carry out of Banking Operation	0.386	0.104	0.206	3.718	0.000*	0.358	2.796
Able to Make Digital Payment	-0.443	0.096	-0.256	-4.590	0.000	0.354	2.824
Access to Bank Branches for deposits	-0.171	0.089	-0.140	-1.909	0.057	0.206	4.848
Access to Mobile /Digital Banking Services	0.429	0.068	0.346	6.309	0.000*	0.367	2.724
Access to Banks for Agricultural Loans	-0.231	0.072	-0.181	-3.182	0.002	0.342	2.921

Variables	Unstand ardized β Co- Efficient	Stand ard Error	Sandardize d β Co-Efficient	t	P value	Tolera nce	VIF
Access to Household Credit	0.506	0.082	0.327	6.162	0.000*	0.392	2.549
Access to SHGs Loans	-0.325	0.083	-0.193	-3.894	0.000*	0.448	2.230
Tribal welfare schemes	0.080	0.079	0.052	1.003	0.317	0.403	2.481
MGNREG'S wage scheme	-0.109	0.093	-0.073	-1.177	0.240	0.284	3.521
Pension Schemes	-0.203	0.107	-0.136	-1.898	0.058	0.214	3.675
Gained Financial Literacy	0.124	0.081	0.085	1.527	0.128	0.352	2.844
Access Business Correspondence	0.092	0.083	0.057	1.105	0.270	0.414	2.416
Access to Insurance	0.017	0.098	0.011	0.172	0.863	0.263	3.795
Access to UPI Services	0.332	0.122	0.222	2.722	0.007	0.166	3.015
Access to Kissan Credit Card	0.717	0.078	0.446	9.158	0.000*	0.465	2.152
Access to Micro /Mobile ATM Facilities	-0.579	0.115	-0.324	-5.037	0.000*	0.266	3.755
Access to Rupay Debit Card	0.417	0.142	0.218	2.932	0.004	0.200	3.007
Access to Credit Card	-0.120	0.123	-0.075	-0.971	0.332	0.187	3.348

Source: Computed data

*

From the Table 4.27 it is revealed that out of the Socio-Economic variables education has resulted highly significant ($p=0.000, \beta=0.151$). Hence one unit of increase in education of the tribal respondents would increase their economic empowerment by 0.151 units keeping other variables constant. Education is an important factor which helps the tribal respondents to know about the various avenues and to utilize the benefit for their economic empowerment. The impact of monthly Income of the tribal respondents have resulted highly significant at ($p= 0.000, \beta = 0.140$) indicating a unit increase in monthly income of the tribal respondents would lead to 0.140 unit increase in dependence on the economic empowerment of tribal respondents, while other independent variables remained constant. For a unit increase in earning members of the family, the economic empowerment of the tribal respondents would be increased by 0.346 units keeping other variables constant. In India 80 percent of workers, remain as cultivators or agricultural labourers (Kanagratanam, 2020). The variable occupation of the tribal respondents were not significant indicating as majority of the tribal respondent's dependents agriculture and very low profile jobs through which they earn a meagre amount. Similarly the location of their residence is found statistically insignificant.

With regard to access to financial services, easy access to bank have of the financial institutions and other financial services to the tribal respondents will leads to their economic empowerment. Ability in carrying out of banking operation by the tribal respondents has resulted highly significant at ($p=0.000, \beta=0.368$) hence one unit of increase in ability in in carrying out of banking operation by the tribal respondents will increase the economic empowerment by 0.368 units keeping other variables constant. Access to mobile /digital banking services has resulted highly significant at($p=0.000, \beta=0.429$) hence one unit of increase in access to mobile /digital banking services of their tribal respondents will increase the economic empowerment by 0.429 units keeping other variables constant. Usage of mobile/digital banking services by the tribal respondents will lead to their economic empowerment. Access to financial services has resulted highly significant at ($p=0.000, \beta =-0.537$) hence one unit of increase in access to banking services of their tribal respondents will increase the economic empowerment by 0.537 units keeping other variables constant. Increased use of digital payments leads to increased unchecked spending by the tribal respondents ($p=0.000, \beta =-0.443$) hence one unit of increase in use of digital payments of their tribal respondents will decrease the economic empowerment by -0.443 units keeping other variables constant. Access to

household credit has resulted highly significant at ($p=0.000, \beta=0.506$) hence one unit of increase in access to household credit by tribal respondents will increase the economic empowerment by 0.506 units keeping other variables constant. Banks loans becomes an additional burden to the tribal respondents which increases their credit borrowing so which becomes a hurdle for their economic empowerment. Access to Self Help Group's loan were highly significant ($p=0.000, \beta=-0.325$) and relationship was found to be negative towards economic empowerment, since the tribal women respondents utilize the SHG loan for personal purpose rather for productive purpose.

Tribal respondents perception towards direct benefit scheme was found to be positive on their Economic Empowerment where Tribal welfare schemes were found to be significant by ($p= 0.080, \beta = 0.317$) hence one unit of increase in of access to Tribal welfare schemes by tribal respondents will increase the economic empowerment by 0.317 units keeping other variables constant. Access to MGNREG'S wage scheme ($p=-0.109, \beta=0.240$) hence one unit of increase in of access to MGNREG'S wage scheme by the tribal respondents will decrease the economic empowerment by -0.109 units keeping other variables constant. Similarly Access to Pension Schemes ($p=-0.203, \beta = 0.058$) were found to be significant at five percent level and the relationship with the Economic Empowerment was negative. Since the tribal respondents receive funds from Government directly to their bank account and they were not utilizing for productive purposes. With regard to Financial inclusion usage of kisan credit card has resulted highly significant at ($p=0.000, \beta=0.717$) hence one unit of increase in usage to kisan credit card of their tribal respondents would increase the Economic Empowerment by 0.717 units keeping other variables constant. Tribal economy is predominantly agro-forest based (Kanagratnam, 2020).

The tribal respondents being in agricultural background would utilize the kisan credit card for purchase of seeds, agricultural equipment for their productive purpose would leads to their economic empowerment. Access to Rupay debit card has resulted highly significant at ($p= 0.000, \beta = 0.417$) hence one unit of increase in usage of Rupay debit card by the tribal respondents will increase the Economic Empowerment by 0.417 units keeping other variables constant.

Access to UPI services has resulted significant at ($p=0.007, \beta=0.151$) hence one unit of increase in of access to UPI services by tribal respondents will increase the Economic Empowerment by 0.151 units keeping other variables constant. Access to bank

branches has resulted significant at ($p=0.171$, $\beta=0.057$) hence one unit of increase in access to bank branches of their tribal respondents will increase the economic empowerment by 0.151 units keeping other variables constant. The financial inclusion perception such as gained financial literacy ($p=0.124$), Access to business correspondence ($p=0.092$), access to insurance ($p=0.017$) were found significant and the relationship with the economic empowerment was found to be positive keeping other variables constant. It is understood from the table 4.8.1 that access to micro /mobile ATM facilities has resulted highly significant at ($p= 0.002$, $\beta=-0.579$) hence one unit of increase in of access to bank loans for business development their tribal respondents will decrease the economic empowerment by 0.579 units keeping other variables constant. Similarly access to credit card would lead to overspending by the tribal respondents hence one unit of increase in usage of credit card by the tribal respondents would decrease the economic empowerment by -0.212 units keeping other variables constant.

The overall results showed that the independent variable education, occupation, No. of earning members, monthly income of the family. Financial inclusion perspective (i.e) Access to banking services, Loans/credit availed, Direct benefit scheme, Financial Inclusion of the tribal respondents had influenced 56.6 percent of variation on their Economic Empowerment .

4.8.2 Determinants of Social Empowerment of Tribal Respondents

Social Empowerment is the process of building autonomy, power, confidence and other necessary means to enact change and pave the way for better future. Social empowerment aims to improve the social status and well being of individuals or marginalized groups within society. It involves promoting social norms and prejudices that perpetuate discrimination and exclusion.

The Social Empowerment of tribal people has been recognized as a central issue in determining the situational reality of their social status. Though the status of tribal respondents varies significantly according to their social economic backgrounds, within this social group too, tribal respondents face discrimination in many areas of life. Tribal people are doubly excluded from the mainstream development process as Adivasis. Hence, there is a need to empower tribal and some efforts from outside are needed to improve their standard of living.

In this model, estimation was made to understand the effect of Socio-economic profile, financial inclusive initiatives for the Social Empowerment of the Tribal hypothesis was framed.

H₀: Socio-economic variables and financial inclusion initiatives do not influence the Social Empowerment of Tribal Respondents

The results respondents was calculated and presented in Table 4.28 and 4.29.

Table 4.28 Determinants of Social Empowerment of Tribal Respondents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.679 ^a	.461	.427	.73716	.461	13.501	25	394	.000

Table 4.29 Determinants of Social Empowerment of Tribal Respondents

Variables	Unstandardized Co-Efficient b	Standard Error	Standardized Co-Efficient b	t	P value	Tolerance	VIF
Constant	2.607	0.476		5.479	0.000		
Education	0.201	0.047	0.001	0.014	0.989	0.431	2.322
Occupation	-0.044	0.033	-0.079	-1.326	0.186	0.383	2.609
No. of Earning Members in the family	-0.317	0.192	-0.281	-1.646	0.101	0.047	2.309
Monthly Income of the family	0.184	0.191	0.165	0.965	0.000*	0.047	2.391
Regional Location	-0.080	0.035	-0.116	-2.283	0.023	0.530	1.889
Access to Banking Services	0.039	0.145	0.013	0.267	0.790	0.612	1.634
Access to various Financial Institutions	0.575	0.158	0.238	3.644	0.000*	0.322	3.110
Ability to Carry out of Banking Operation	0.671	0.117	0.354	5.728	0.000*	0.358	2.796
Able to Make Digital Payment	0.111	0.109	0.063	1.022	0.307	0.354	2.824
Access to Bank Branches for deposits	-0.052	0.101	-0.042	-0.518	0.605	0.206	3.848
Access to Mobile /Digital Banking Services	-0.010	0.077	-0.008	-0.132	0.895	0.367	2.724
Access to Banks for Agricultural Loans	0.385	0.082	0.298	4.717	0.000*	0.342	2.921
Access to Household Credit	-0.125	0.093	-0.080	-1.347	0.179	0.392	2.549

Variables	Unstandardized Co-Efficient b	Standard Error	Standardized Co-Efficient b	t	P value	Tolerance	VIF
Get SHGs Loan Benefits	0.604	0.094	0.355	6.423	0.000*	0.448	2.230
Tribal welfare schemes	0.350	0.090	0.227	3.906	0.000*	0.403	2.481
MGNREG'S wage scheme	0.233	0.105	0.154	2.224	0.027	0.284	3.521
Pension Schemes	-0.132	0.121	-0.088	-1.095	0.274	0.214	3.675
Gained Financial Literacy	0.433	0.091	0.296	4.752	0.000*	0.352	2.844
Access Business Correspondence	0.055	0.093	0.034	0.591	0.555	0.414	2.416
Access to Insurance	0.642	0.111	0.417	5.791	0.000*	0.263	3.795
Access to UPI Services	-0.149	0.138	-0.098	-1.086	0.278	0.166	3.015
Access to Kissan Credit Card	0.504	0.139	0.310	3.625	0.000*	0.187	3.348
Access to Micro /Mobile ATM Facilities	0.584	0.130	0.323	4.505	0.000*	0.266	3.755
Access to RupayDebit Card	-0.512	0.160	-0.264	-3.191	0.002	0.200	3.007
Access to Credit Card	-0.069	0.088	-0.042	-0.783	0.434	0.465	2.152

Source: Computed data

The result of the multiple regression analysis (Table 4.29) showed that, the socio-economic profile of the tribal respondents showed that the significant variables resulted with financial inclusion measures and Social Empowerment.

The Co-relation Co-efficient of monthly income of the tribal respondents ($\beta=0.184$), was found to be highly significant and found to be influencing among other socio-economic variables. Hence one unit of increase in monthly income of the family would increase the social empowerment of the tribal respondents by 0.184 units keeping other variables constant. The education of the tribal respondents increased the social empowerment positively by 0.201 units when the education attainment of the respondents was increased by one unit. Social empowerment of the tribal respondents was increased by 0.201 units when the other variables were kept constant. Thus an increase in educational status of the respondents leads to social empowerment of the tribal respondents. The regional location of the tribal respondents has resulted at five percent level of significant ($p=0.023, \beta=-0.080$) and the relationship was found to be negative. The other socio-economic variables such as no. of earning members in the family ($p=-0.317, \beta=0.101$), occupation ($p=-0.044, \beta=0.186$) were found to be negative. It is noted that tribal respondents were staying in different hilly regions with a low profile jobs, thus it does not create any positive contribution for their social empowerment.

The co-relation co-efficient of banking services availed by tribal respondents revealed the fact that access to various financial institutions ($p=0.000, \beta=0.575$), ability to carry out of banking operations ($p=0.000, \beta=0.671$) were found to be highly significant. These variables were considered as most influencing variables towards social empowerment of tribal respondents. Whereas the co-relation co-efficient of the variables able to make digital payment ($p=0.307, \beta=0.111$), access to banking services ($p=0.790, \beta=0.039$) were found to be positive towards Social Empowerment, when the other variables were kept constant. The variables access to bank branches for deposits ($\beta=-0.052$), access to mobile/digital banking services ($\beta=-0.010$) were found to be negatively correlated with social empowerment. Majority of the tribal respondents were in a poor background and they don't have excess money to access bank branches for deposits. The tribal respondents also poor in technology they were not using smart mobile phone for digital banking services.

With regard to access to loans/credit, access to bank for agricultural loans ($p=0.000, \beta=0.385$) and access to self-help groups loan ($p=0.000, \beta=0.604$) were found to

be highly significant. Hence one unit of access to banks for agricultural loan and SHG's would increase their Social Empowerment by 0.385 and 0.604 units respectively. So accessing banks and Self Help Group's for their improvement of the productive purpose would increase the Social Empowerment of tribal respondents. On the other hand access to household credit ($\beta=-0.125$) was found to be negative. Hence a unit in access to household debt would decrease their Social Empowerment by (-0.125) units.

With regard to financial participation the variables gained financial literacy ($p=0.000, \beta=0.433$), access to insurance ($p=0.000, \beta=0.642$), access to Kissan credit card ($p=0.000, \beta=0.584$) and micro/mobile ATM services ($p=0.000, \beta=0.584$) were highly influencing the social empowerment of tribal respondents. The other variables in financial inclusion measures like access to UPI services ($p=-0.149$), usage of Rupay debit card ($p=-0.512$), access to credit card (-0.069) by tribal respondents were hardly minimum. Since the Government should put measures and include them into the stream of digitization. Therefore, the Government needs to take action and incorporate the tribal respondents into the digitization process.

The overall contribution of socio-economic variables, financial inclusive perspective towards tribal respondents Social Empowerment were found to be highly significant which indicates overall contribution of all independent variables to the dependent variable was 46.1 percent as indicated by r^2 value.

4.8.3 Determinants of Financial Empowerment of Tribal Respondents

Financial Empowerment includes financial education and financial literacy, but it is focused both on building the ability of individuals to manage money and financial service on providing access to products that work for them (Consumer Financial Protection Bureau, 2020). Financial inclusion helps the tribal to collect their savings and improve their productivity. Financial inclusion is a plan for tribal respondents to gain financial information, skills, and tools that they can use to achieve their empowerment. Financial empowerment is essential for promoting the socio-economic development, well-being, and empowerment of tribal communities, enabling them to realize their full potential and lead dignified lives (Thakur, S., & Singh, A, 2021).

Financial Empowerment of tribal is the ability and confidence of tribals and communities to make positive financial decisions that promote their long-term financial stability and financial well-being. The ultimate aim of the Government is to enhance the

financial empowerment of the tribal households. Financial empowerment can be initiated by financial inclusion measures that may be followed by the tribal respondents. In order to find out the Financial Empowerment of the Tribal respondents, hypothesis was framed

H₀: Socio-economic variables and financial inclusion initiatives do not influence the Financial of Tribal Respondents

The results were calculated and presented in Table 4.30 and 4.31.

Table 4.30 Determinants of Financial Empowerment of Tribal Respondents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.766 ^a	.587	.561	.91171	.587	22.419	25	394	.000

Table 4.31 Determinants of Financial Empowerment of Tribal Respondents

Variables	Unstandardized Co-Efficient b	Standard Error	Sandardized Co-Efficient b	t	P value	Tolerance	VIF
Constant	6.529	0.588		11.097	0.000		
Socio-Economic Variables							
Education	0.216	0.058	0.183	3.711	0.000*	0.431	2.322
Occupation	0.296	0.041	0.377	7.206	0.000*	0.383	2.609
No. of Earning Members in the family	-0.174	0.238	-0.109	-0.731	0.465	0.047	2.309
Monthly Income of the family	0.269	0.043	0.278	6.245	0.000*	0.530	1.889
Regional Location	-0.013	0.236	-0.008	-0.057	0.955	0.047	2.391
Access to Banking Services	0.320	0.179	0.074	1.789	0.074	0.612	1.634
Access to various Financial Institutions	1.094	0.195	0.320	5.613	0.000*	0.322	3.110
Ability to Carry out of Banking Operation	0.267	0.145	0.100	1.842	0.066	0.358	2.796
Able to Make Digital Payment	0.750	0.134	0.303	5.578	0.000*	0.354	2.824
Access to Bank Branches for deposits	0.121	0.125	0.069	0.972	0.332	0.206	3.848
Access to Mobile /Digital Banking Services	-0.012	0.095	-0.007	-0.125	0.900	0.367	2.724

Variables	Unstandardized Co-Efficient b	Standard Error	Sandardized Co-Efficient b	t	P value	Tolerance	VIF
Access to Bank Loans for Business Development	0.241	0.101	0.132	2.386	0.018	0.342	2.921
Access to Household Credit	0.397	0.115	0.179	3.471	0.001	0.392	2.549
Get SHGs Loan Benefits	1.502	0.116	0.624	12.911	0.000*	0.448	2.230
Tribal welfare schemes	0.701	0.111	0.323	6.328	0.000*	0.403	2.481
MGNREG'S wage scheme	0.600	0.130	0.281	4.630	0.000*	0.284	3.521
Pension Schemes	0.224	0.149	0.105	1.499	0.135	0.214	3.675
Gained Financial Literacy	0.933	0.113	0.451	8.268	0.000*	0.352	2.844
Access Business Correspondence	0.075	0.115	0.033	0.653	0.514	0.414	2.416
Access to Insurance	0.599	0.137	0.275	4.369	0.000*	0.263	3.795
Access to UPI Services	-0.243	0.170	-0.113	-1.429	0.154	0.166	3.015
Access to Kissan Credit Card	0.699	0.109	0.304	6.396	0.000*	0.465	2.152
Access to Micro /Mobile ATM Facilities	-0.453	0.160	-0.177	-2.828	0.005	0.266	3.755
Access to Rupay Debit Card	1.000	0.198	0.365	5.042	0.000*	0.200	3.007
Access to Credit Card	-0.195	0.172	-0.085	-1.135	0.257	0.187	3.348

Source: Computed data

In order to have comprehensive view on Financial Empowerment of tribal respondents considering their socio-economic variables and financial inclusion perception towards Financial Empowerment was analysed and presented in the table 4.31.

Socio-Economic variables of the tribal respondents such as education, occupation and monthly income of the respondents were resulted highly significant with the financial empowerment. A unit increase in educational status of the tribal respondents enhance their financial empowerment by 0.216 units, keeping other variable constant. The occupation of the respondents increases the Financial Empowerment, for a unit increase in occupation would increase the financial empowerment by 0.296 units keeping other variables constant. The variables No. Of earning members (-0.174) and regional location of the tribal respondents (-0.013) were found to be negative towards their Financial Empowerment.

With regard to banking services availed, access to various financial institutions, able to make digital payment were found to be highly significant. A unit increase in access to various financial by the tribal respondents would increase the Financial Empowerment by 1.094 units keeping other variables constant. The correlation co-efficient of the access to financial services (0.320), ability to carry banking operation (0.267) and access to bank branches for deposits were found to be positive towards their financial empowerment. But the correlation co-efficient of access to mobile/digital banking services was found to be negative (-0.012).

The variables under access to loan by tribal respondents was found to be highly significant. The self-help group loan accessed by tribal respondents was found to be highly significant and a unit increase in access to SHG's loan would result in an increase in financial empowerment by 1.502 units keeping other variables constant. Access to household credit (0.397) were found to be positive and significant.

The variable Tribal welfare scheme were found to be highly significant a unit increase in access towards tribal welfare scheme would increase the Financial Empowerment of tribal respondents by 0.701 units keeping other variables constant. Similarly a unit increase in MGNREG wage scheme would increase the financial empowerment by 0.600 units keeping other variables constant. The correlation co-efficient of pension scheme was found to be positive (0.224). The direct benefit scheme shows a positive relationship on the Financial Empowerment of the tribal respondents. It is proved

that the Government direct benefit scheme for the tribal are influencing the Financial Empowerment. The need of the hour is to ensure the the tribal respondents to utilize the fund for the productive purpose for their empowerment.

The gained financial literacy(0.933), access to insurance(0.599), access to Kissan credit card (0.699), access to Rupay debit card (1.000) were found to be highly significant. The relationship with respondents Financial Empowerment was positive and highly influencing. Access to business correspondence was positive and influencing on Financial Empowerment of tribal respondents.

The overall contribution of Socio-economic variables, Financial Inclusive perspective towards tribal respondents Financial Empowerment were found to be highly significant which indicates overall contribution of all independent variables to the dependent variable was 58.7 percent as indicated by r^2 value.

4.8.4 Determinants of Overall Empowerment of Tribal Respondents

Empowerment suggests a distinct approach for developing interventions and creating social change. It directs attention towards wealth, social adaption and financial competence. It includes the financial inclusion perspective that many social problems exist due to unequal distribution of, and access to resources(Gallant, Cohen&Wolf, 2021). Financial participation, control and critical awareness of financial inclusion perspectives are essential aspects of Overall Empowerment of tribal respondents. Overall empowerment connects with tribal respondent's well-being with Social, Economical and Financial environment and suggests that people need opportunities to become active in community decision making in order to improve their lives, organizations and communities. Hypothesis was framed to find out the Overall Empowerment of the Tribal , H_0 : Socio-economic variables and financial inclusion initiatives do not influence the Overall Empowerment of Tribal Respondents.

The Overall Empowerment of the respondents was calculated and presented in Table 4.32 and 4.33.

Table 4.32 Determinants of Overall Empowerment of Tribal Respondents

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.716 ^a	.512	.481	1.65767	.512	16.541	25	394	.000

Table 4.33 Determinants of Overall Empowerment of Tribal Respondents

Variables	Unstandardized Co-Efficient b	Standard Error	Sandardized Co-Efficient b	t	P value	Tolerance	VIF
Constant	15.538	1.070		14.522	.000		
Education	0.368	0.106	0.186	3.474	0.001	0.431	2.322
Occupation	0.371	0.075	0.282	4.967	0.000*	0.383	2.610
No. of Earning Members in the family	-0.104	0.394	-0.039	-0.263	0.792	0.056	1.727
Monthly Income of the family	0.029	0.391	0.011	0.073	0.942	0.057	1.494
Regional Location	-0.210	0.078	-0.129	-2.673	0.008	0.529	1.889
Access to Banking Services	2.035	0.355	0.356	5.738	0.000*	0.322	3.110
Access to various Financial Institutions	1.325	0.264	0.296	5.027	0.000*	0.358	2.797
Ability to Carry out of Banking Operation	0.419	0.244	0.101	1.720	0.086	0.356	2.806
Able to Make Digital Payment	-0.102	0.227	-0.035	-0.450	0.653	0.206	3.849
Access to Bank Branches for deposits	0.407	0.172	0.137	2.360	0.019	0.367	2.724
Access to Mobile /Digital Banking Services	0.396	0.183	0.130	2.164	0.031	0.344	2.903
Access to Bank Loans for Business Development	0.780	0.208	0.210	3.747	0.000*	0.393	2.545
Access to Household Credit	1.780	0.212	0.442	8.404	0.000*	0.447	2.237
Get SHGs Loan Benefits	0.972	0.200	0.267	4.859	0.000*	0.409	2.447
Tribal welfare schemes	0.724	0.235	0.203	3.079	0.002	0.285	3.506
MGNREG'S wage scheme	-0.111	0.271	-0.031	-0.409	0.683	0.214	4.669
Pension Schemes	-1.243	0.205	-0.360	-6.072	0.000	0.353	2.835

Variables	Unstandardized Co-Efficient b	Standard Error	Sandardized Co-Efficient b	t	P value	Tolerance	VIF
Gained Financial Literacy	1.259	0.249	0.346	5.048	0.000*	0.264	3.791
Access Business Correspondence	0.221	0.210	0.058	1.055	0.292	0.414	2.415
Access to Insurance	0.061	0.309	0.017	0.196	0.845	0.167	3.996
Access to UPI Services	-0.051	0.198	-0.013	-0.257	0.797	0.469	2.131
Access to Kissan Credit Card	0.447	0.292	0.105	1.531	0.126	0.265	3.770
Access to Micro /Mobile ATM Facilities	0.907	0.359	0.198	2.523	0.012	0.201	3.977
Access to Rupay Debit Card	0.187	0.313	0.049	0.598	0.550	0.186	3.378
Access to Credit Card	-0.178	0.324	-0.025	-0.548	0.584	0.614	1.629

Source:Computed data

Table 4.33 revealed that the occupation of the tribal respondents were found to be highly significant among other socio-economic variables and when a unit increase in occupation would increase the Overall Empowerment by 0.371 units keeping other variables constant. The education of the tribal respondents was found to be significant at one percent level (0.368) and the relationship with the respondent's empowerment was positive and highly influencing. Monthly income of the family (0.029) was found to be positive towards Overall Empowerment. No. of earning members (-0.104) and regional location (-0.210) were found to be negative towards the Overall Empowerment of tribal respondents.

With regard to banking services, access to banking services and access to financial institutions were found to be highly significant. A unit increase in access to banking services would lead to increase in Overall Empowerment by 2.035 units keeping other variables constant. Access to bank branches for deposits (0.407), ability to carry banking operation (0.419), access to mobile /digital banking services (0.396) were found to be positive towards their overall empowerment. Able to make digital payment (-0.102) was found to be negative towards the tribal respondents Overall Empowerment.

Access to loan by tribal respondents (0.780), access to self-help group loan (0.972), access to household credit (1.780) were found to be highly significant. A unit increase in access to loan would lead to increase in Overall Empowerment by 0.780 units keeping other variables constant. Similarly a unit increase in access to self-help group loan would lead to increase in Overall Empowerment by 0.972 units keeping other variables constant. A unit increase in access to household credit would increase the Overall Empowerment by 1.780 keeping other variables constant.

The correlation co-efficient of Tribal welfare scheme (0.724) was found to be positive and influencing the Overall Empowerment of tribal respondents. MGNREG wage scheme (-0.111), pension scheme (-1.243) were found to be negative towards Overall Empowerment.

With regard to financial inclusion perspective gained financial literacy was found to be highly significant. A unit increase in financial literacy would lead to increase in overall empowerment by 1.259 units keeping other variables constant. Access to business correspondence (0.221), access to insurance (0.061), access to Kissan credit card (0.447), access to micro /mobile ATM facilities (0.907), access to Rupay debit card (0.187) were found to be positive and influencing the Overall Empowerment of the tribal respondents.

The Overall contribution of socio-economic variables, financial inclusive perspective towards tribal respondents Overall Empowerment were found to be highly significant which indicates overall contribution of all independent variables to the dependent variable was 51.2 percent as indicated by r^2 value.