Financial Inclusion in Rural area: A Case Study of Manipur

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Abstract:

This study, inter alia, attempt to gauge the relative importance of the determinants of Financial Inclusion in rural areas. The test, using ordinal logistic regression, reveals that gender, availability dimension, social group and economic status are highly responsible to Financial Inclusion / Exclusion among rural households in the sample areas.

A. Profile of the Research

1. Background of the Study:

Nations across the world have accepted the importance of financial inclusion on the grounds of socio-economic justice. Notably, the impact of policy inference in developing countries, including India, revealed the need to redress the repercussion on rural-urban disparity. Despite the various concerted efforts of the Government of India and the banking sector, a large proportion of the rural population still remained financially excluded (V. Ram Kumar, 2007). At regional level, the worst region is N E R (North Eastern Region) with a horrific exclusion index value above 75% (Pallavi Gupta and Bharti Singh, 2013). R.B.I. (2006) commented that the level of financial inclusion in N.E.R. is not related to poverty alone, gauge by any measures, financial penetration and financial inclusion is very low. And, at state level, Manipur, comprising huge rural population lie beneath the rest of the country (Sabu and Deepa Jose Sebastian, 2017).

Under this circumstance, an investigation into financial inclusion/exclusion at household level is keenly felt. So far, no case study on financial inclusion has been conducted for rural Manipur. This challenging odd situation foisted the present study to undertake the pilot project of exploring the ground reality.

2. Research Objectives

(i)To examine current status of financial inclusion in rural Manipur.
(ii)To explore the ground reality of financial inclusion and exclusion.
(iii)To draw policy inferences, if any.

3. Research Questions

(i) Is it true that the extend of financial exclusion as provided by secondary source is extremely high in rural Manipur?
(ii) If it is so, what are the factors that inflated financial exclusion?

4. Research Methodology

Firstly, district wise I.F.I (Index of Financial Inclusion) is constructed to confirm the status of financial inclusion in rural Manipur. Secondly, based on the value of I.F.I, three districts representing high, medium and low financial inclusion are selected for ground level investigation. Thirdly, three villages (i.e., one each from the three districts) are purposively selected on the basis of distance from bank. Fourthly, a sample of fifty household each from the three villages are randomly drawn with equal probability of being included in the sample. Fifthly, primary data has been collected with a well frame questionnaire. Sixthly, based on primary data, extend and degree of financial inclusion is constructed. Finally, correlation between financial inclusion and it's explanatory variables are statistically tested to deduce the relative importance of the determinants.

5. Literature Review

To undertake this case study, both theoretical literature and empirical literature of financial inclusion have been reviewed specific to definition and concept on the one hand, and method of measurement and findings on the other.

i) Theoretical Literature

To Leeladhar (2005), financial inclusion means delivery of basic banking services at an affordable cost to all the sections of the society, especially the disadvantaged and low income groups who tends to be excluded.

Sarma (2008), define financial inclusion as a process that ensures availability, accessibility and usage of the formal financial system for all members of the society.

There are plethora's of definitions on financial inclusion. Nevertheless, none of the definition is universally acceptable in singly. This is mainly due to the multi-dimensional characteristics of financial inclusion. The definitional focused dimension varies across countries/regions depending on the socio-economic conditions and priorities of social concern.(Chandan Goyal,2013). Perhaps, all definitions are coherent to the compelling propositions of the social agenda known as social inclusion. But, the crux of the matter is the precept of social inclusion. In a developed economy, social inclusions rigidly rely on the prolific dimension. While in a developing economy like India, even the non-prolific dimensions are used as a clue to social inclusion. As for instance, the true indicators in international level are Current and Saving Account (CASA), short term and long term financial services access from formal financial institutions. But in India, the main focus at present is bare inclusion concept (V. Ram Kumar, 2007).

ii) Empirical Approach

Crisil Inclusix since 2013, measure level of financial inclusion. It focuses on the number of total account (deposit and credit) rather than total amount. The underlying principle is the headcount of social inclusion rather than enhancement of productive capacity.

Sarma (2008) developed Index of Financial Inclusion in three dimensions: availability, accessibility and usage. It addressed three core issues of financial inclusions: branch penetration, social inclusion and economic growth. In common parlance, researchers in India applies the model developed by Sarma (2008) with or without modification.

Chandan Goyal (2013) used the model developed by Sarma (2008) with slight modification. That is, he measured the status of financial inclusion in Assam in three dimensions (i.e., availability, accessibility and usage) with two or more indicators. Poonam and Archna Chaudry (2016) used the model without any modification. They constructed state level I.F.I. in three dimensions, and used one indicator for one dimension. Vinayak Bhagwanrao Bhise and Sameshwar Narayan Babar (2016) constructed I.F.I. for Marathawada region in two dimensions with unequal number of indicators for different dimensions.

iii) Empirical Findings

Pallavi Gupta and Bharti Singh (2013), statistically tested the correlation between the usage dimension and financial literacy in India. The test, using Karl Pearson coefficient of correlation, revealed large variation between the two, indicating that financial exclusion is not mainly due to financial literacy. The study draws a policy inference to emphasize the behavioural aspects such as A.T.M. mobile banking, etc. and socio-cultural diversity. On the contrary, Sahu (2013) who studied financial inclusion relative to socio-economic variables suggested for improvement of financial literacy.

Gupta and Chotia (2014) empirically deduce positive correlation between financial inclusion and G.D.P/H.D.I. Similarly, Financial Access Survey data show direct relationship between financial inclusion and G.D.P. In connection with this, Manisha Singh had quoted- 'Lack of financial inclusion leads to a one percent loss of G.D.P.'

Poonam and Archna Chaudhry (2016) examine the progress of financial inclusion in India by constructing state level I.F.I. for the years 2001 and 2014. The comparative study concluded that there were improvements though not satisfactory. Similarly, the computed index value of Crisil Inclusix revealed that the plight of the states in India till date is not commendable.

Nirma Sabu and Deepa Jose Sebastan (2017) compiled the rank of Indian states on the basis of financial inclusion. The ranking based on secondary data revealed Kerala at the top and Manipur dangling at the bottom.

6. Limitation of the study

Despite a wide range of gap between the base year and year of the study, the compiled secondary data of district level analysis is done without trending the population. In simplicity, number of Bank Branch and volume of Deposit and Credit for the 1st quarter of 2019 relative to 2011 census are computed to figure our APPBB, PCD and PCC. As a matter of justification, it may be highlighted that annual growth rate of population for some of the district are not readily available.

In the same vein,, the sample size is not to an extent of satisfaction. Due to the small sample size, a certain explanatory variables are amalgamated to meet the assumption of the test. In fact, the research is done without any financial support from any institution/department. As such, a large sample size though desired is not accomplished.

B. Financial Inclusion: District Level Analysis

In District Level investigation, an attempt is made to unravel the scepticism over low status of Financial Inclusion in rural Manipur. To confirm the query, Financial Inclusion is contextualized to banking. Within the circumference of banking too, number of bank branch, total amount (deposit and credit) in reference to 2011 census and number of bank branch per 1000 sq. km. are taken into account. Then, index of Financial Inclusion is constructed to reveal the status of Financial Inclusion in rural Manipur.

1. Banking Statistic

The relevant banking statistic of the study is presented in table-1.The compiled parameters and indicators are the components of availability dimension and usage dimension respectively. The inverse of APPBB (Average Population Per Bank Branch) and AAPBB (Average Area Per Bank Branch) are used as indicators of availability dimension. On the other hand, P.C.D. (Per Capita Deposit), P.C.C (Per Capita Credit) and C.D.R. (Credit Deposit Ratio) are used as indicators of usage dimension.

Table-1: Relevant Banking Statistic of the Study

District	No. of B.B.	A.P.P.B.B.	A.A.P.B.B.	P.C.D.	P.C.C.	C.D.R.
Imphal west	9	21679	49.98	11199	4380	39.11
Imphal East	16	17056	41.76	15090	7602	50.33
Thoubal	4	67708	120.65	1161	887	76.40
Bishnupur	3	49964	153	631	837	132.65
Chandel	7	18190	418.59	10370	9644	93. 09
Churachandpur	15	17052	284.27	21854	11461	52.44
Senapati	19	24824	169.46	8609	6409	74.45
Ukhrul	2	78405	1932.15	440	511	116.14
Tamenglong	2	60644	1892.95	1185	893	75.36
Manipur	77	26255	261.35	8852	5276	59.60

Source: Basic Statistical Returns in India, R.B.I., 2019: Quarterly Statistic on deposit and credit of SCB, March, 2019: Census of India, 2011: Statistical Yearbook of Manipur, 2017.

2. District wise index of Financial Inclusion:

Applying the formula discuss in Box-1(a), two dimensional index of Financial Inclusion is presented in Table-2. Degrees of financial inclusion are classified into five categories as per formulation of Box-1(b).The primary objective is to empirically confirm the status of financial inclusion in rural Manipur. Besides, it is design to suit a sampling process for grassroot level investigation. Result of the index is discuss in section-B 4, entitle as Result and Discussion.

Table-2: Index of Financial Inclusion (IFI)

District	Availability dimension Index	Usage dimension index	I.F.I	category
Imphal East	1.000	0.484	0.742	High
Churachandpur	0.564	0.714	0.639	Medium
Chandel	0.500	0.625	0.563	Medium
ImphalWest	0.780	0.285	0.533	Medium
Senapati	0.415	0.433	0.424	Low
Bishnupur	0.208	0.346	0.277	Low
Thoubal	0.188	0.156	0.172	Very Low
Ukhrul	0.000	0.274	0.137	Very Low
Tamenglong	0.041	0.153	0.097	Very Low
Manipur	0.347	0.349	0.348	Low

Source: Table 1

Box-1: Measurement of Index of Financial Inclusion and Classification of category.

(i) Method

In this study, measurement of I.F.I. entails three steps of calculation. Firstly, indicator indices are calculated with the help of formula (i) given below. Then, dimension indexes are calculated by the same formula used for calculating I.F.I. Finally, I.F.I is computed with formula (2) to reveal the status of financial inclusion.

The indicator index for the ith indicator, I_i is given as:

$$I_i = \frac{A_i - m_i}{M_i - m_i} \quad \text{- (1)}$$

Where;

A_i = Actual value of the indicator, i
m_i = Minimum value of the indicator, i
M_i= Maximum value of the indicator, i

And, $0 \leq I_i \leq 1$. Higher the value of I_i, higher is the economy's achievement in the I_i indicators.

If n indicators of any dimension are considered, then, each dimension d, will be represented by point, $d_i = (I_1, I_2 \ldots\ldots I_n)$ on the n dimensional Cartesian space. As, the dimensional index is represented by a point, $d_i = (I_1, I_2, \ldots\ldots I_n)$, the dimension index for the ith dimension, d_i is calculated by the same procedures as that of the I.F.I. i.e., formula (2).

Further, if n dimensions are considered, the district will be represented by a point, $D_i=(d_1, d_2 \ldots\ldots d_n)$ on the n dimensional Cartesian space.

In the n-dimensional space, the point, 0=(0,0.....0) indicate the worst situation while the point, I=(1,1 .....1) indicate complete financial inclusion.

Then, the index for the ith district is measured by the normalised inverse Euclidean distance of the point D_i from the ideal point, I=(1,1.....1)

$$\text{I.F.I.} = 1 - \frac{\sqrt{(1-d_1)^2 + (1-d_2)^2 + \ldots + (1-d_n)^2}}{\sqrt{n}} \text{-(2)}$$

In formula (2), the numerator of the second component, Di is the Euclidean distance from the ideal point, I, normalised by square root of n and subtracting from 1, gives the inverse normalised distance. The normalisation is done in order to make the value lie between 0 and 1 and the inverse distance is considered so that higher value of the I.F.I. corresponds to higher financial inclusion.

(ii) Classification of category based on the value of I.F.I.

Index Value	Category
0.8< I F I ≤ 1----------	Very High Financial Inclusion
0.6< I F I ≤ 0.8----------	High Financial Inclusion
0.4< I F I ≤ 0.6----------	Medium Financial Inclusion
0.2< I F I ≤ 0.4----------	Low Financial Inclusion
0.0< I F I ≤ 0.2----------	Very Low Financial Inclusion

3. Result and Discussion

In overall, the status of financial inclusion in rural Manipur is low. Both demand-side and supply-side aspect are held responsible for it. Nevertheless, supply-side aspect is highly accountable in contrast to demand-side aspect. Technically speaking, the value of I.F.I. is high or low retrospective to availability dimension. This is because the constructed I.F.I. is based on secondary data which in turn primarily focussed supply-side aspect of financial inclusion. To what extend may it be diminutive, demand-side aspect is also not exempted from the blame game. Technically speaking, usage dimension to some extend effected the value of I.F.I. Therefore, to assess determinants of demand for financial inclusion, the study is directed to the bottom of the pyramid.

C. Financial Inclusion: Grassroot Level Analysis

Unlike District Level analysis, grassroot level investigation focus solely demand-side aspect of Financial Inclusion. The ultimate objective is to explore determinants of demand for Financial Inclusion. To bridge the inroad from district level to grassroot level investigation, a sample is drawn with the help of purposive dual stage sampling and simple random sampling. Accordingly, Khurai Leikai in Imphal East District, Sakho Village in Senapati District and Longphailum Village in Tamenglong District are chosen as sample areas of the study. In pursuance, field survey have been conducted during March 2019. Primary data have been collected with a well frame questionnaire. The questionnaire was basically structured with access to bank account, saving, credit and insurance. And, it was designed to furnish information, inter alia, on socio-economic and banking profile of the sample household. The questionnaire so designed was administered in the sample areas through face to face candid interview. Then, the accumulated data were compiled to measure degree of Financial Inclusion

relative to the socio-economic background of the sample household. Finally, the explanatory variables are statistically tested to deduce the relative importance of the determinants.

1 Profile of the Sample Areas

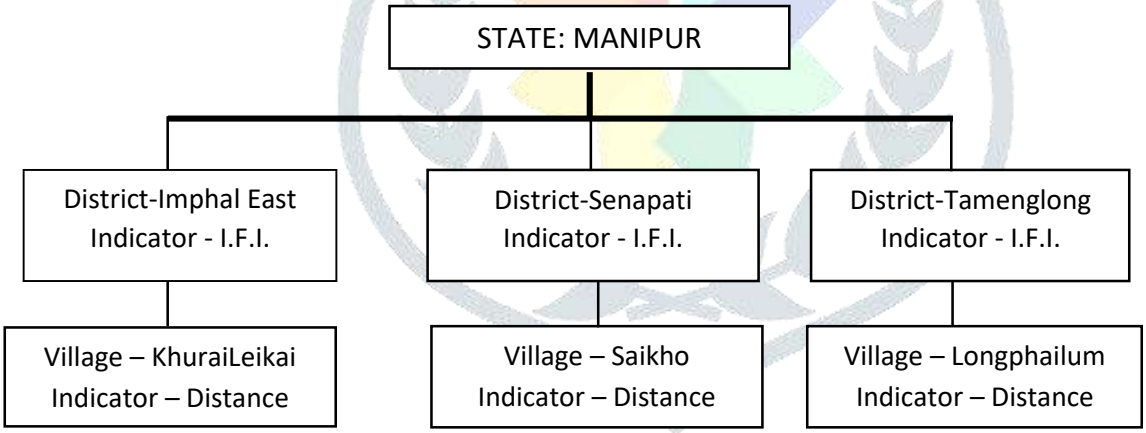
Based on both primary and secondary sources of information, profile of the sample areas are briefly articulated in deductive method of analysis.

(a) General Profile of the Sample Areas

Manipur is one of the seven sister state of North East India. It attained full-fledged statehood on 21 January, 1972. Prior to 9th Dec., 2016, there were nine districts, namely; Imphal West, Imphal East, Thoubal, Bishnupur, Churachandpur, Chandel, Senapati, Ukhrul and Tamenglong. On 9th Dec., 2016, seven new districts have been created by bifurcating from the existing districts. These includes Jiribam bifurcated from Imphal East, Kakching from Thoubal, Kangpokpi from Senapati, Tengnoupal from Chandel, Pherzawl from Churachandpur, Kamjong from Ukhrul and Noney from Tamenglong. Hence, with the formation of seven new districts, there are sixteen districts in Manipur. However, relevant data in respect to the newly created districts are not readily available by the time this study proceed. In other words, statistical data of the newly formed seven districts are yet to be updated by the time this case study is undertaken. Therefore, the studies rely on the classification of district prior to 9th Dec., 2016.

The geographical areas of Manipur, as provided by 'Statistical Year Book of Manipur-2017, is divided into rural sector and urban sector. The main focus of the present study is rural sector. The sample design for grassroot level investigation is presented in the form of Chart below.

Chart: Sample design of the study



(b) Banking Profile of the Chosen Districts

[i] Imphal East District: Based on the value of I.F.I [table 3.4] rural sector of Imphal east district is in the category of high financial inclusion. The districts as a whole has twenty seven Bank branch, of which sixteen are in rural sector while eleven are in urban sector. At first glance, the number of bank branch is higher in rural sector. But if studied relative to it's population and geographical coverage, urban sector is still in better position. The APPBB are 17056 and 16655 for rural and urban sector respectively. Similarly, AAPBB for rural and urban sectors are 41.76 and 3.71 respectively. Correspondingly, APPBB and AAPBB, the PCD and PCC of the rural sector are lower than that of the urban sector. P.C.D figures are 15090 and 39668 for rural and urban respectively. In like manner, P.C.C of the rural and urban sectors are 7602 and 12887 respectively. C.D.R. is higher in rural sector [50.38] than urban sector [32.49]

[ii]Senapati District: As per I.F.I, Senapati district is in the category of medium financial inclusion. An absurd state of affairs is being observed in Senapati district. That, urban sector with a population of 7476 has no Bank

branch. Rural sector of the district has the highest number of bank branch [i.e., 19]. APPBB and AAPBB are 24824 and 169.46 respectively. The figures of P.C.D, P.C.C and C.D.R are 8609, 6409 and 74.45 respectively.

[iii]Tamenglong district: Relying on Table 3.4, Tamenglong district is at the bottom of the I.F.I..The rural sector has two Bank branch while urban sector has three Bank branch. APPBB of rural and urban sector are 60644 and 6454 respectively. AAPBB for rural sector is 1892.95 while it is 201.70 for urban sector. P.C.D, P.C.C and C.D.R of the rural sector are 1185, 893 and 75.36 respectively. Whereas, the figure for urban sector are 70149, 14047 and 20.02 respectively.

(c) Salient Features of the Selected Villages;

(i) Khurai Leikai

Khurai Leikai is situated in the capital city of Manipur. Three social groups, namely; General, SC and OBC reside in it. Their main occupations are service and business. In general, both educational status and economic status are high. There are seven bank branch in the vicinity: Allahabad Bank, Bank of Baroda, Canara Bank, Vijaya Bank, State Bank of India, Punjab and Sind Bank and Axis Bank.

(ii) Saikho Village

Saikho village is situated at an approximate distance of seven kilometres from Saikul Hill Town, wherein only Vijaya Bank Branch is available. Only schedule tribe household reside in it. Their main occupation is Agri-Allied activities, mainly cash crop. Educational status and economic status of the sample household are deemed to be average.

(iii) Longphailum Village

Longphailum Village in Tamenglong district is approximately one hundred kilometres away from Nungba Hill Town. And, Nungba Hill Town has only one bank branch, namely, State Bank of India. Even the existing bank branch is in the state of non-performing institution. Therefore, the only alternative is post office banking. Agri-Allied activities mainly food crop is their subsistence occupation. Educational status and economic status are low

2. Degrees of financial inclusion;

Using the method discussed in Box-2(i), degrees of Financial Inclusion are measured relative to distance, socio-economic variables and economic status in table-3, 4 & 5 respectively. Degree of financial inclusion is classified into five categories as per formulation of Box-2(ii). Unlike other explanatory variables, Economic Status Index required a systematic procedure of measurement. As such, the method of measurement is formulated as in Box-3.

(i) Degrees of financial inclusion in the sample villages:

Based on primary data, village wise Financial Inclusion Index is constructed in table-3. The primary objective is to study the geographic dimension (i.e. Distance of bank) as availability dimension of financial inclusion from demand-side aspect. In addition, the index is design to verify if status of financial inclusion in rural Manipur is factually low as has been interpreted by district level I.F.I. In respect to the primary objective, the index value revealed positive correlation between financial inclusion and availability of formal financial institution. To prove in the context of the index, status of financial inclusion in Khurai Leikai, Saikho village and Longphailum village are figure to be high, low and very low respectively. Related to the second objective, it may be highlighted that grassroot level I.F.I (based on primary data) yield the same result to that of district level I.F.I(based on secondary data). Thus, gauge by a measure of distance from bank with either primary data or secondary data, inadequate availability of formal financial institution is highly accountable to low financial inclusion.

Table-3: Degrees of financial inclusion in the sample villages

Village/District	No. of H/H	Financially excluded		Barely included		Very low		Low		High		Hyper		Mean FIS	Mean FII	Category
		No	%	No	%	No	%	No	%	No	%	No.	%			
Khurai Leikai (Imphal East Dist.)	50	1	2.0	0	0.0	8	16.0	10	20.0	10	20.0	21	42.0	4.7	0.8	**High**
Saikho Village (Senapati Dist.)	50	6	12.0	3	6.0	28	56.0	8	16.0	4	8.0	1	2.0	1.1	0.2	**Low**
Longphailum village (Tamenglong Dist.)	50	21	42.0	5	10.0	21	42.0	1	2.0	2	4.0	0	0.0	0.4	0.07	**Barely included**
Total	**150**	**28**	**18.7**	**8**	**5.3**	**57**	**38.0**	**19**	**12.7**	**16**	**10.7**	**22**	**14.7**	**2.1**	**0.3**	**Low**

Source: Primary Data.

(ii) Degrees of financial inclusion among various socio-economic groups:

Socio-economic and banking profile of the sample household is presented in table-4. It is generally believed that socio-economic background is responsible to financial inclusion. Keeping in view the criteria of relevancy, a certain socio-economic variables are chosen for the study. The table revealed large variation across different sub-groups, ranging from barely included to hyper included. And, the nature of variation spell out the hidden fact that highly included households are households of top ranking in any socio-economic and cultural set-up. In other word, all the variables under consideration are accountable to financial inclusion Variations across different level of income, education and different household adult size symmetrically revealed positive impact of the variables on financial inclusion. And, occupation is collinear to income such that status of financial inclusion is high among household with highly remunerated occupation and vice versa. Viewed from an angle of gender and socio-cultural set-up, female headed household, Schedule tribe, Schedule caste and Other Backward Class are the vulnerable sections of the society. Thus, if studied the whole scenario, it is learnt that socio-economic and cultural background are responsible to financial inclusion either directly or indirectly.

Table-4: Socio-Economic and Banking Profile of the Sample Household

Group	Sub-Group	No. of Household	Financially excluded		Barely included		Very low		Low		High		Hyper		Mean FIS	Mean FII	Category
			No.	%	No.	%	No.	%	No.	%	No.	%	N.	%			
Sex of HOH	Male	135	23	17.04	7	5.19	49	36.30	18	13.33	16	11.85	22	16.30	2.27	0.39	Low
	Female	15	5	33.33	1	6.67	8	53.33	1	6.67	0	0.00	0	0.00	0.38	0.06	Barely included
Social Group	General	30	0	0.00	0.00	0.00	0.00	0.00	0	0.00	9	30.00	21	70.00	7.2	1.2	Hyper
	S.C.	12	0	0.00	0.00	0.00	4	33.33	7	58.33	1	8.33	0	0.00	1.17	0.20	Low
	S.T.	100	27	27.00	8	8.00	49	49.00	9	9.00	6	6.00	1	1.00	0.70	0.12	Low
	O.B.C.	8	1	12.5	0	0.00	4	50.0	3	37.5	0	0.00	0	0.00	0.65	0.11	Low
Education	Illiterate	5	3	60.00	2	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04	0.01	Barely included
	10 & Below	27	8	29.63	3	11.11	16	59.26	0	0.00	0	0.00	0	0.00	0.31	0.05	Barely included
	10+2	60	15	25.00	2	3.33	25	41.67	9	15.00	5	8.33	4	6.67	1.31	0.22	Low
	Graduate	32	2	6.25	1	3.13	8	25.0	8	25.0	5	15.63	8	25.0	3.19	0.53	Low
	P.G. & above	26	0	0.00	0	0.00	8	30.77	2	7.69	6	23.08	10	38.46	4.69	0.78	High
Occupation	Services: (i) Govt	38	0	0.00	0	0.00	8	21.05	8	21.05	10	26.32	12	31.58	4.39	0.73	High
	(ii) Corporate	14	0	0.00	0	0.00	5	35.71	2	14.29	3	21.43	4	28.57	3.68	0.61	High
	(iii)Retire worker	8	0	0.00	0	0.00	5	62.5	3	37.5	0	0.00	0	0.00	0.69	0.11	Moderate
	Business	24	0	0.00	0	0.00	11	45.83	4	16.67	3	12.5	6	25.00	2.94	0.49	Low
	Petty trade & Vending	7	3	42.86	1	14.29	3	42.86	0	0.00	0	0.00	0	0.00	0.23	0.04	Barely included
	Labourer	7	4	57.14	2	28.57	1	14.29	0	0.00	0	0.00	0	0.00	0.1	0.02	Barely included
	Agri-Allied	52	21	40.38	5	9.62	24	46.15	2	3.85	0	0.00	0	0.00	0.28	0.05	Barely included
Income	Below 10,000	19	10	52.63	7	36.84	2	10.53	0	0.00	0	0.00	0	0.00	0.09	0.02	Barely included
	10,000 -40,000	57	18	31.58	1	1.75	32	56.14	6	10.53	0	0.00	0	0.00	0.39	0.07	Barely included
	40,000-70,000	35	0	0.00	0	0.00	22	62.86	8	22.85	2	5.71	3	8.57	1.5	0.25	Low
	70,000-1.00,000	20	0	0.00	0	0.00	1	5.00	5	25.00	7	35.00	7	35.00	4.60	0.77	High
	1.00,000 & above	19	0	0.00	0	0.00	0	0.00	0	0.00	7	36.84	12	63.16	8.16	1.36	Hyper included
Size of adult members	Upto three	72	23	31.94	4	5.56	31	43.06	10	13.89	1	1.39	3	4.17	0.71	0.12	Low
	Four/Five	65	5	7.69	3	4.62	24	36.92	7	10.77	12	18.46	14	21.54	3.04	0.51	Low
	Six & above	13	0	0.00	1	7.69	2	15.38	2	15.38	3	23.08	5	38.46	4.85	0.81	High

Source: Primary data

(iii)Degrees of Financial Inclusion among Different Economic Status

Degree of financial inclusion relative to economic status is constructed in table-5.And, the method of measurement are presented in Box-2 and Box-3 respectively. Rationally, economic status is an indispensable factor of financial inclusion. That is, household with high economic status are likely to be safe and secure to financial inclusion than household with low economic status. Nevertheless, the crux of the matter is the extent of inevitable exception to this rational point of view. Stating in econometric terminology, degree of correlation between financial inclusion and economic status is expected to be positive in general but exception is inevitable at household level. On this presumption, degree of financial inclusion is studied retrospective to economic status of the sample household. The study revealed positive correlation between financial inclusion and economic status. This implies that an exception to positive correlation between financial inclusion and economic status at household level is insignificant such that degrees of financial inclusion vary directly across different categories of economic status. Precisely, economically weaker sections of the society are vulnerable to financial exclusion.

Table -5: Degrees of Financial Inclusion among Different Economic Status

Economic Status	No. of Household	Financially excluded		Barely included		Very low		Low		Highly		Hyper		Mean FIS	Mean FII	Category
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
Very Low	10	6	60.00	4	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0.04	0.01	**Barely included**
Low	43	19	44.19	3	6.98	21	48.84	0	0.00	0	0.00	0	0.00	0.25	0.04	**Barely included**
Medium	56	3	5.36	1	1.79	34	60.71	14	25.00	4	7.14	0	0.00	0.93	0.16	**Low**
High	**23**	**0**	**0.00**	**0**	**0.00**	**1**	**4.35**	**3**	**13.04**	**9**	**39.13**	**10**	**43.48**	**5.37**	**0.89**	**High**
Very High	**18**	**0**	**0.00**	**0**	**0.00**	**1**	**5.56**	**2**	**11.11**	**3**	**16.67**	**12**	**66.67**	**6.92**	**1.15**	**Hyper**

Source: Primary data

Box-2 Measurement of financial inclusion index (Grassroot level)

(i).Method:

In this study, Grassroot Level I.F.I. is measured with the help of Financial Inclusion Score (F.I.S) and Financial Inclusion Index (F.I.I). F.I.I, in turn is measured by a certain indicator of Financial Inclusion such as "No" Frills Account, CASA, short term and long term Financial Services. Weightage to indicators are attributed as per the following formulation:

(a)F I S:

$FIS_{s/c/I}$ = 0.1, if the household access only no frill account
: 0.5, if the household access only CASA
:1,if the household access a single financial service in short term perspective.
: 2, if the household access a single financial service in long term perspective.

Where;

$FIS_{s/c/i} \Rightarrow$ Financial Inclusion Score for any one of saving, credit and insurance

And, sum of score for all the financial services is the FIS of the household.

Symbolically,

$$FIS_s + FIS_c + FIS_i = FIS_{sci}$$

For vivid perception, the structure of the model may be represented as below:.

(ii) Specification of Indicators and Weights:

Financial products	Weight of indicators			
	No Frill Account	CASA	Short term	Long term
Saving	0.1	0.5	1	2
Credit	--	--	1	2
Insurance	--	--	1	2

The minimum score is 0, indicating financial exclusion and maximum possible score is assume to be six, indicating access of all the three financial products in long term perspective. (b)F.I.I: Financial Inclusion Index of a household is computed as FIS_{sci} divided by the assume maximum possible score.

Symbolically,

$$FII = FIS_{sci}/6$$

Where:

$$0 < FII \leq 1$$

This is done to make the value lie between 0 and 1: Zero indicating financial exclusion while 1 indicating high financial inclusion.

(iii)Categorisation of degrees on the basis of Indicators and FII

Degree of Financial Inclusion	Indicators	Index value
Barely included ----------	No frills account----------	0.00 < I.F.I. ≤0.07
Very low ----------	Current and Saving account----	0.07 < I.F.I≤ 0.09
Low----------	Short term & long term --------	0.09< FII ≤ 0.5
High----------	Short term & long term --------	0.5< FII ≤ 1.0
Hyper----------	Short term & long term---------	1.0< FII ≤ N

Where, the letter N denote indeterminate value greater than 1

Box-3 Measurement of Economic Status Index

(i).Method:

To construct E.S.I (Economic Status Index), a certain characteristics of a household are taken into account. These characteristics include house type, sanitation, cultivable land, household durable asset and access to necessities. As given in clause (ii), each characteristic has three attributes, weighted in tandem to monetary value. A household is assigned score on the basis of the weighted attributes in possession. Then, E.S.I. of a household is computed as actual score divided by sum of weights. Finally, economic status is classified into different categories as per formulation of clause (iii)

(ii).Specification of Attributes and Weights

Characteristics	Attributes with weight
House type----------	Kutcha -1 (b) Semi-pucca -2 (c) Pucca -3
Sanitation ----------	Kutcha -1 (b) Semi-pucca -2 (c) Pucca -3
Cultivable Land--------	Below one acre -1 (b) One acre to two acre -2 (c) Above two acre -3
Household durable asset-	TV/Computer/Fridge-1 (b) Motor bike -2 (c) Motor car -3
Accessible necessities---	Newspapers-1 (b) Electricity -2 (c) L.P.G. -3

(iii) Categorisation of Economic Status Base on Index Value

Economic Status	Index value
Very low----------	$0.0 < E.S.I. \leq 0.2$
Low----------	$0.2 < E.S.I. \leq 0.4$
Medium ----------	$0.4 < E.S.I. \leq 0.6$
High----------	$0.6 < E.S.I. \leq 0.8$
Very high----------	$0.8 < E.S.I. \leq 1$

3 Determinant of demand for Financial Inclusion

Financial Inclusion is a multi-dimensional one. And, interaction of the various dimension are highly complex, perhaps, a baffling phenomenon without econometric exercise. Therefore, a comprehensive measure must include as many dimension as possible, preferably in single number. In this study, Financial Inclusion is studied in seven dimensions, comprising the breadth dimension and focus dimension. In other words, as many as seven explanatory variables are statistically tested at one go. The seven explanatory variable as given in section C1 (iii) are solely demand-side aspect, selected on the criteria of relevancy and viability.

(i) Modelling Financial Inclusion

To study the determinants of demand for financial inclusion, Index of Financial Inclusion is used as dependent variable while distance from bank, a certain socio-economic variables and economic status are used as explanatory variables .To ascertain a right econometric exercise, the characteristics of both the dependent and independent variables are examine in respect to the assumptions of the particular statistical test chosen for performing econometric exercise. That is, the number, nature and type of distributions of dependent variable on the one hand, and the number and nature of independent variables on the other, are taken into consideration in choosing an appropriate statistical test. The given data, if summarised, is a cross section data with non-normal distribution of dependent variable. With an aim to conduct ordinal logistic regression, the distribution of the dependent variable is normalised with the help of logit transformation.

(ii) Dependent Variable:

Notionally, the dependent variable comprises degrees of Financial Inclusion and exclusion. In amalgamation, degrees of Financial Inclusion represented positive values of financial inclusion while degrees of Financial Exclusion represented negative values of financial inclusion. Nevertheless, all the negative values are censored to zero while positive values greater than one are censored to one. In brief, the dependent variables are censored both from below and above. Therefore, in practice, degrees of Financial Inclusion ranging from very low to very high are used as dependent variable.

(iii) The Explanatory Variables

At the outset, mention may be made that there are many explanatory variables of financial inclusion. Keeping in view the relevance of the variables in the sample areas, a certain factors are purposively selected for econometric exercise. This broadly comprises distance from bank, socio-economic variables and economic status. Socio-economic variables include gender relative to head of household, social group, education, occupation and size of adult members in a household. All the variables under consideration are categorical, some by its very nature and some by transformation. As against the null hypothesis, alternative hypothesis also known as research hypothesis states that variations across different categorises are statistically significant with symmetrical sign of negative regression coefficients. The explanatory variables under consideration are represented in table-6.

Table 6: Definition of Dummies and their expected sign

Variables	Dummy	Definition	Expected Sign
Head of household (Ref. Category- Male headed household)	HOH_1	1 for female; 0 Otherwise	-
Social Group (Ref. Category- General)	SG_1	1 for SC/OBC;0 otherwise	-
	SG_2	1 for ST; 0 otherwise	-
Educational Status (Ref. Category- Graduate and above)	$Edn._1$	1 for Matriculate and below; 0 otherwise	-
	$Edn._2$	1 for 10+2; 0 otherwise	-
Occupation (Ref. Category- Services)	OCC_1	1 for business; 0 otherwise	-
	OCC_2	1 for Agri-Allied/ Labourer; 0 otherwise	-
Economic Status (Ref. Category-High economic status)	ES_1	1 for low ES; 0 otherwise	-
	ES_2	1 for medium ES; 0 otherwise	-
Household Adult size (Ref.Category-Six and above)	HAS_1	1 for adult size upto 3; 0 otherwise	-
	HAS_2	1 for Adult size of 4 and 5; 0 otherwise	-
Distance from Bank (Ref.Category-Near distance)	DIS_1	1 for Average distance; 0 otherwise	-
	DIS_2	1 for Far distance; 0 otherwise	-

(iv) Functional Form of the Model

The model is formulated with the help of latent variable, $\hat{Y}_j$, which can take any value but not always observable. Incorporating the explanatory variables, $\hat{Y}_j$ is formulated as follows:

$$\hat{Y}_{Ij}=B_o+ B_1HoH_{1j}+B_2HAS_{1j} +B_3HAS_{2j} +B_4SG_{1j} +B_5SG_{2j} +B_6Edn_{1j} +B_7Edn_{2j} + B_8ES_{1j} + B_9ES_{2j} + B_{10}OCC_{1j} + B_{11}OCC_{2j} + B_{12}DIS_{1j} +B_{13}DIS_{2j} +U_{ij}$$

The random disturbances, Ui's are assumed to be independently and normally distributed with zero mean. The observe dependent variable, Y_j (i.e., I.F.I for the jth sample household) is linked to the latent variable, $\hat{Y}_j$ as per the following formulation.

$$Y_j = 0 \text{ for } \hat{Y}_j \leq 0$$

$$Y_j = \hat{Y}_j \text{ for } 0 < \hat{Y}_j \leq 1$$

$$Y_j = 1 \text{ for } \hat{Y}_j > 1$$

Then, the relative importance of the determinants are deduce by applying ordinal logistic regression.

(v) Final Results and Discussion

Results of ordinal logistic regression is given in table-7.The F statistic is perfectly significant and Pseudo R^2 is satisfactorily acceptable. Beside, mention may be made that the presence of heteroscedasticity have been check and removed prior to the test.

In term of head of household, regression coefficient of dummy, HoH_1 is negative and statistically significant at a level of 0.000, indicating that status of financial inclusion among female headed household lagged far behind male headed household unfathomably. Viewed from the perspective of socio-cultural diversity, regression coefficient of SG_1 (SC/OBC) and SG_2 (ST) are negative and statistically significant at a level of 0.000. In other word, status of financial inclusion among SC/OBC and ST are extremely low in compare to general category. In term of economic status, regression coefficient of dummies ES_1 and ES_2 are negative and statistically significant at a level of 0.000. This signifies a strong, perhaps, perfect positive correlation between financial inclusion and economic status. Studying geographic dimension of financial inclusion from demand-side aspect, dummies DIS_1 and DIS_2 are negative and statistically significant. These indicate that availability of formal financial institutions in the proximity is umteenly important to financial inclusion. In brief, four variables, namely: head of household, social group, economic status and distance are major determinants of demand for financial inclusion in the sample areas. Truely speaking, economic status and distance from bank are directly responsible to financial inclusion while gender relative to head of household and social group are responsible to financial inclusion not directly but indirectly. Naturedly created subordinate capability of female to male is the ultimate reason of low financial inclusion among female headed household. Similarly, variation across different social group is associated to socio-cultural diversity duely adaptable or inadaptable to financial inclusion. Thus, viewed from the perspective of socio-cultural set-up, low status of financial inclusion among widow household and ST/SC/OBC is intrinsically due to female inferiority complex and socio-cultural tradition inadaptable to financial inclusion respectively. And, the focus dimension of exclusion includes low economic status and non-availability of formal financial institution in the proximity. As far as this case study is concern, the impact of household adult size, education and occupation on financial inclusion are not commendable. In technical term, regression coefficients of these three variables are negative but statistically insignificant.

Table-7: Results of Multiple ordinal logistic regression

Explanatory Variables	Categories	Estimated Coefficient
Head of household (Ref. Category- Male headed household)	Female headed household	-1.575
Household Adult Sizes (Ref. Category-Six & above)	Upto three	-0.256
	Four & Five	-0.252
Social Group (Ref. Category- General)	SC & O.B.C.	-2.617
	S.T.	-3.025
Economic status (Ref. Category – High Economic Status)	Low	-3.969
	Medium	-2.245
Educational Status (Ref. Category- Graduate and above)	Matriculate and below	0.584
	10+2	0.303
Occupation (Ref. Category- Services)	Business	-0.671
	Agri-Allied and Labourer	-0.220
Distance from bank (Ref. Category-Near)	Average distance	-3.025
	Far distance	-4.216

Constant : 1.055
Pseudo R^2 : 0.959
F statistic (7,142) : 105.577

D. Summary of Findings and Policy Inferences

In an effort to draw accurate conclusion, the study have been set to two level investigations: District level and Grassroot level. District level investigation deals with the threshold of the study while grassroot level investigation deals with the main objective of the study. Summary of findings, therefore, are presented in two heads:

(i)Finding-District Level

Based on secondary data, two dimensional district level I.F.I. revealed low status of financial inclusion in rural Manipur. The main reason as indicated by the two dimensions is inadequate availability of formal financial institution.

(ii). Finding –Grassroot Level

Based on primary data, grassroot level I.F.I. reaffirmed low status of financial inclusion in rural Manipur. And more importantly, grassroot level investigation empirically tested the relative importance of explanatory variables. The test, using Multiple (ordered) Logistic Regression, revealed gender inequality, socio-cultural tradition, economic status and distance from bank as major determinants of financial inclusion in rural Manipur. Besides, the primary survey revealed the ground reality of double standard in financial inclusion, holding dormant account on the one hand and actively participating in informal saving and borrowing

2. Policy Inferences

Relying on the findings, a certain policy inferences are drawn as follows: (i) The provision of beneficiary to Widow must be sustain effectively or even hike up.(ii)Socio-cultural diversity must be highly emphasize. (iii)The role of intermediaries must be revived in an ongoing process.(iv) Effective Financial Literacy campaign must be launch to cope voluntary exclusion due to socio-cultural tradition.

Conclusion:

Financial Inclusion has become a politically driven socio-economic policy to prevent social exclusion. The global political dream to secured inclusion of the excluded population by 2030 is not way far ahead. Despite of the fact, Financial Inclusion in Indian scenario revealed a stark rural-urban divide. An investigation into the matter and the way forward to its solutions is the need of the hour. Burden with the need of urgent concern, this study explore the ground reality and contribute a few policy inferences for necessary action. Attention may be drawn from the fact that high status of financial inclusion in North-East India, particularly Manipur, is strategically vital to foster Act East Policy as it is a gateway to South-East Asian Countries.

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