Ind. Jn. of Agri. Econ.
Vol. 63, No. 2, April-June 2008

Behaviour of Rural Households in the Borrowing and Usage of Credit in North-East Uplands of India

Sumarbin Umdor*

I

INTRODUCTION

The role of credit is very critical in enabling the poor to overcome poverty. There are evidences to show that access to credit is positively correlated with the decline in rural poverty and increase in secondary and tertiary output (Burgess and Pande, 2003). In India, the Government has been actively involved in promoting development of the banking sector in the rural areas as part of its strategy to institutionalise credit. However, the financial development that took place in post-bank nationalisation period has resulted in lopsided development with the distribution of institutional credit to the rural areas, particularly for agricultural purpose, being very low in the case of states in the northeastern region (Mohan, 2004; Reserve Bank of India, 2004; Sidhu and Gill, 2006).

The northeastern region of India covers about eight per cent of country's land mass and accounts for about 3.8 per cent of the country's population. Majority of the states in the region comprising Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, and Sikkim are hilly and mountainous except for the plains areas[1] in the Brahmaputra and Barak valleys in Assam, the Imphal valley in Manipur, and the piedmont strip skirting the entire length of western Tripura.

The uplands of the northeast region (NER) of India are characterised by certain socio-economic features. As per the 2001 census, the schedule tribes form about 27 per cent of the Northeast population. However, in Mizoram, Nagaland, and Meghalaya as also in the hill districts of Assam, [2] Manipur and Tripura, the majority of the population are tribals. The uplands are sparsely populated with the density of population as low as 13 and 42 persons per sq. km in Arunachal Pradesh and Mizoram respectively. Poor infrastructure is another feature of the upland areas with the development of transport, power and communication infrastructure lagging behind the rest of the country. Another feature is the low level of urbanisation (except Mizoram), with a high proportion of the rural population depending on agriculture. However, upland agriculture has remained predominantly subsistence with rural communities practicing shifting cultivation or jhum cultivation.[3] About

*Lecturer, Department of Economics, North Eastern Hill University, Shillong – 793 022.

TABLE 1. SOCIO-ECONOMIC CHARACTERISTICS OF UPLANDS OF NORTH-EASTERN REGION

States	ST population (as percentage of state population) (per cent)	Population density per sq. km	Urban popul-ation	Rural workers engaged in agriculture	Shifting cultivation (SC)		Forest land under community* control		Economic infrastructure					
									Transportation		Power		Communication	
			(per cent)		Total forest area*	Area under SC	Total forest area	Under community control	Road density per 100 sq. km	Percentage of unconnected habitations	Per capita Consum-ption of electricity (in KwH)	Percentage of rural households having electricity	Teledensity (telephones per 100 persons)	Percentage o villages with direct access to telephone facility
					sq. km		(per cent)		2001	2001	2000	2001	2004	2004
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Arunachal	64.2	13	20.8	72.9	51500	2600	82	16.54	21.93	N.A.	68.6	44.53	2.44	50
Assam	12.4	340	12.9	59.1	27000	3100	30	52.53	111.14	40.21	95.5	16.54	3.73	86
Manipur	34.2	103	26.6	61.3	17400	3600	78	30.26	51.21	47.80	69.5	52.53	7.13	50
Meghalaya	85.9	103	19.6	76.0	9500	2600	70	44.14	42.34	51.99	160.3	30.26	2.95	61
Mizoram	94.5	42	49.9	84.7	15900	3800	87	56.88	23.58	N.A.	120.7	44.14	6.22	61
Nagaland	89.1	120	17.2	77.4	8600	3900	85	31.75	126.8	9.63	84.7	56.88	2.41	50
Tripura	31.1	305	17.1	59.4	7000	1000	55	41	133.81	38.91	95.5	31.75	2.98	61
India	8.1	313	27.8	53.4	-	-	-	-	74.31	39.32	354.8	43.52	4.34	84

1. The percentage of ST population in the hill districts of Assam are 68.3 per cent in North Cachar Hills and 55.7 per cent in Karbi Anglong. In the five hill districts of Manipur, the ST population ranged from 95.5 per cent (highest) in Ukhrul to 78.5 per cent (lowest) in Senapati.
2. The percentage of urban population in North Cacchar Hills and Karbi Anglong are 63.4 and 88.7 respectively. In Manipur all the four hills districts have zero per cent urban population except Chandel (10 per cent).
3. The percentage of rural workers engaged in agriculture in North Cachar Hills and Karbi Anglong are 72.9 and 78.1 per cent respectively. In the hill districts of Manipur, this figure ranged from a high of 79 per cent in Tamenglong to 65 per cent in Churachandpur.

Sources: 1. Government of India (2001). 2. Poffenberger (2005) 3. As adopted from Umdor and Panda (2007) based on various government sources.
Notes: * Total forest area is as per administrative classification of forest.
1. The data on shifting cultivation and forest land under community is taken from Poffenberger (2005).

4,43,000 families in the northeastern region are estimated to be involved in jhumming (NEC, 2002).

The practice of jhumming is connected and supported by the particular and unique land tenure system in which in majority of cases land in rural areas is owned by community and the clan which allocates jhum land to the households for cultivation purpose. These characteristics discussed and presented in Table 1, make the uplands of northeast distinct from the rest of the country.

Against this backdrop the paper attempts to investigate the nature and extent of demand and use of credit by rural households in the uplands of NER, examine the importance of the different sources of credit and also the uses of credit for different purposes. An important factor that makes the study significant is the prevalence of community ownership of the land and the absence of documents entitling the individuals to ownership, which has often been pointed out as hindering the flow of bank credit to the rural households in Uplands of North East as land cannot be used as collateral for bank loans (Reserve Bank of India, 2006).

The paper is organised into five sections including the introductory section. Section II provides information on the sources of data used in the paper. Section III examines the participation of rural households and the incidence and amount of indebtedness in six hill districts. Section IV and V examine the sources and uses of credit by households and the factors influencing the access to formal and informal credit and the use of credit in the region. Section VI summarises and presents conclusions.

II

SOURCES OF DATA

The primary data used in the paper are from baseline survey of the North Eastern Region Community Resources Management Project[4] (NERCRMP) - a project funded by International Fund for Agricultural Development. The baseline survey, conducted in 2001-02, was carried out in project villages in Karbi Anglong and North Cachar Hills districts in Assam, Senapati and Ukhrul districts in Manipur, and West Khasi Hills and the West Garo Hills districts in Meghalaya. In the survey, random sampling technique was adopted for the purpose of selecting a representative sample from among the project villages, four villages from each of the six districts. In all a total 816 rural households were interviewed and the information collected during the baseline survey included various aspects of the social and economic life of the villagers and also included a section on credit.

III

PARTICIPATION OF UPLAND RURAL HOUSEHOLDS IN CREDIT MARKETS OF NER

The participation of upland rural households of NER in the credit markets at the district and state levels is shown in Table 2. It indicates wide variation in the proportion of households in the sample districts that have taken loans. In Karbi Anglong, only about 17 per cent of the households interviewed reported to have taken loans, while in West Garo Hills this figure was around 53 per cent. The repayment status of the loans borrowed by the households, an indication of the incidence of indebtedness of the households at the time of the survey, ranged from a low of 41 per cent in West Garo Hills to a high of 93 per cent in West Khasi hills, with the average of 66.4 per cent for combined three states.

TABLE 2. PARTICIPATION OF UPLANDS RURAL HOUSEHOLDS OF NER IN CREDIT MARKETS

(Rs.)

Districts	Total house-holds surveyed	Number of household availing loans†	Percentage of outstanding loans	Average borrowing per household		Minimum amount borrowed	Maximum amount borrowed
				Mean*	Median		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Karbi Anglong	116	20 (17)	70.0	3425	4000	400	8000
North Cachhar	90	40 (44)	48	2351	1000	150	13000
Assam	206	60 (29)	55	2709	1500	150	1300
Senapati	140	55 (39)	78	6269	5000	200	70000
Ukhrul	200	75 (38)	84	11669	10000	500	150000
Manipur	340	130 (38)	82	9348	5500	200	70000
West Khasi Hills	95	42 (44)	92	16838	10000	1000	200000
West Garo Hills	175	92 (53)	41	15974	10000	1600	100000
Meghalaya	270	134 (50)	57	16223	10000	1000	99999
All	816	324 (40)	66	10873	6000	150	200000

Results of the t-test of equality of mean amount borrowed by households

States	Equality of variance	*t*-statistics	Degree of freedom	p-value
Assam	assumed	1.360	58	.18
Manipur	not assumed	2.790	125.3	.006
Meghalaya	assumed	.248	126	.80

Source: Author's calculation based on *Baseline Survey*.

Notes:† Figures in parentheses are percentage of household borrowing to total households surveyed.

* Excludes 8 (eight) outliers representing borrowing by households of rupees 0.1 million and above.

The mean amount borrowed by households for each district and all the districts combined is calculated by excluding extremely large loan amounts in the data set. In all, eight such outliers in the form of loan amounts of Rs. 1,00,000 and above, have been excluded in the calculation of the mean. Accordingly, the mean borrowing per household for all the districts combined is Rs. 10,873 (Table 2). A comparison of the mean borrowing within the three states shows that there is a wide variation in the average amount borrowed, with upland rural households in Assam borrowing the

least amount followed by those in Manipur and Meghalaya. The two tailed t-test of independence of means shows the average loan borrowed by households in the hill districts of Assam and Meghalaya are statistically not different. In case of Manipur, the difference in the household average loan in the two hill districts is statistically significant at even 1 per cent significance level.

IV

SOURCE OF LOANS FOR UPLANDS RURAL HOUSEHOLDS OF NER

This section analyses the sources of borrowing by upland households of the NER at the district and state levels. The sources are categorised in two main categories; formal and informal sources. In the former category, households identified only the banks as source of credit. In the latter category, the main sources of credit are friends and relatives, traders and money lenders. The other sources of credit also identified by the households are the village groups, women groups and the church. These have also been clubbed along with the informal source of credit. The proportion of households borrowing from these two sources in the six districts is given in Table 3.

TABLE 3. SOURCES OF BORROWING OF HOUSEHOLDS

Sources (1)	Karbi Anglong (2)	North Cahhar (3)	Assam (4)	Senapati (5)	Ukhrul (6)	Manipur (7)	West Khasi Hills (8)	West Garo Hills (9)	Megha -laya (10)	Comb -ined (11)
Formal	13	14	27	2	37	39	38	89	127	193
Informal	7	26	33	53	38	91	4	3	7	131
Total	20	40	60	55	75	130	42	92	134	324
					As percentage of the total					
Formal	65	35	45	4	49	30	90	97	95	60
Informal	35	65	55	96	51	70	10	3	5	40

Source: Same as in Table 2.

Note: (1) The χ^2-square test of independence yields a Pearson *chi*-square of 121.5, degree of freedom of 2 and a p value of 0.000.

In Assam, 33 of the 60 loans borrowed by households (55 per cent) came from informal sources. In Senapati district of Manipur, only two out of 55 households have borrowed from formal sources, while in Ukhrul almost an equal proportion of households have borrowed from both sources. In both the districts of Meghalaya, very few number of households borrowed from informal sources (7 out of 134 households). There is therefore variation in the pattern of borrowing of households between states and also districts within a state showing that the importance of the source of loans differs from one upland area to another. A chi-square test (χ^2 square test) of independence supports this finding by rejecting the null hypothesis (at 1 per cent significance level) that the source of loan is independent of the region.

The analysis that follows, further examines the different sources of borrowing and the average size of loans for all the villages combined, and does not include individual district or state level analysis.

Sources of Borrowing and Loan Sizes

The importance of the different sources of credit in the rural credit markets of the upland of NER is discussed both in terms of the share of the sources in the total amount borrowed and also by analysing the number of loans borrowed by households from each source. The percentage distribution of loans as per source shows that, on an average, 80 per cent of the total amount borrowed by the households is from banks (Table 4). Among the informal sources, friends and relatives are the main source of credit and accounted for 14 per cent of the total amount of loans. The share of moneylenders and others are at 1.2 and 5.2 per cent respectively. The percentage distribution of number of loans borrowed by households from different sources shows that the two main sources of credit for the rural households are banks (59.2 per cent), followed by friends and relatives (29.8 per cent). The share of the money lenders (which also include the traders) and others (which include village groups, women groups and church) stood at 2.8 and 8 per cent respectively.

TABLE 4. SOURCES OF LOANS AND LOAN SIZES*

(Rs.)

Sources (1)	As percentage share of loans (2)	As proportion of borrowing households (per cent) (3)	Mean (4)	Median (5)
Formal (Banks)	80	59.2	14691	10000
Informal	20	40.8	5338	3000
Friends /Relatives	13.6	29.8	4985	2400
Moneylenders/traders	1.2	2.8	4667	5000
Others^	5.2	8.2	6848	2500
Total	100	100	10873	6000

Distribution of loan sizes as per source of loans**

	Formal	Informal	Total
Less than 1000	6 (3.2)	43 (33.3)	49 (15.5)
1001 to 5000	58 (31.0)	50 (38.8)	108 (34.2)
5001 to 10000	56 (29.9)	26 (20.2)	82 (25.9)
10001 to 50000	62 (33.2)	9 (7.0)	71 (22.5)
50001 to less than 100000	5 (2.7)	1 (0.7)	6 (1.9)
Total	187 (100)	129 (100)	316* (100)

Source: Same as in Table 2.

Notes: (1) Results of the *t*-test of equality of mean borrowings from formal and informal sources.

Equality of variance	*t*-statistics	Degree of freedom	p-value
not assumed	6.659	293.6	.000

(2) The χ^2 square test of independence yields a Pearson *chi*-square of 73.56, degree of freedom of 3 and p value of 0.000.

* Excludes 8 outliers which represent borrowing by households of rupees 0.1 million and above.

** Figures in parentheses represent percentages.

The average borrowing by households and the size of loans as per the source are also given in Table 4. The mean and the median amount borrowed by households show the loans borrowed from the informal sources are smaller than loans from formal source. A comparison of the source of loans for different loan sizes shows that around 72 per cent of the informal loans are of Rs. 5,000 and less. In case of loans from formal source, only about 34 per cent of the loans fall in the range of Rs. 5,000 and less.

Further, only three per cent of loans from formal source amounted to Rs. 1,000 and less, while in the case of informal source nearly one-third of the number of loans was of Rs. 1,000 and below. About 92 out of 100 number of loans borrowed from the informal source falls in the range of Rs. 10,000 and less. The two tailed t-test of independence of means show the loans from the formal sector are significantly larger than from the informal sector at even 1 per cent significance level. Also, the X^2 square test of independence supports the above finding (at 1 per cent significance level) by rejecting the hypothesis that the source of loans is independent of the size of the loan.

Source of Loans and Household Farm Sizes

Another relationship that is examined is whether farm size influences the source of credit, i.e., whether the small and marginal farmers are more dependent on the informal source compared to farmers with medium and large farm holdings. The sample villages in the survey are from the uplands of NER where majority of them practiced shifting cultivation. However, besides Jhum cultivation, households were also engaged in terrace cultivation, orchard and forest plantation and homestead garden. The farm size of each household is arrived at by adding the total farm land under all the above four types of farming practices. Accordingly, the farm size is divided into four categories of one acre and below, more than one acre and below 2.5 acres, between 2.5 acres and below five acres and finally more than five acres.

The distribution of household farm size and source of loans is presented in Table 5. It shows that a majority of the households have very small farm holdings with 78

TABLE 5. SOURCES OF LOANS AND FARM SIZE*

	I	II	III	IV	
Farm sizes	I acre and below	1 and below 2.5 acre	2.5 acre to <5 acre	5 acre and above	Combined
(1)	(2)	(3)	(4)	(5)	(6)
Formal	78	56	30	10	174
Informal	52	45	21	4	122
Total	130	101	51	14	296*
		As percentage of the total			
Formal	60	55.4	58.8	71.4	58.8
Informal	40	44.6	41.2	28.6	41.2

Source: Same as in Table 2.

Notes: 1. The χ^2 square test of independence yields a Pearson *chi*-square of 1.46, degree of freedom =3 and p value of 0.69.

*Exclude observations of farm size of 20 households (those availing loans) from Karbi Anglong district due to non-availability of data.

per cent of the households' farm size being less than 2.5 acre. However, there is no evidence of significant association between farm size and source of loans. The χ^2 square test of independence confirms the null hypothesis that the size of loan is independent of the farm size.

Source of Loans and Household Income

The data from the baseline survey has also been used to analyse whether source of borrowings is influenced by the income level[5] of the households. For this purpose the income reported by the households (per annum) are classified into five categories starting with the lowest income category Rs. 10,000 (I), followed by category II, III and IV, each category representing incremental income of Rs. 10,000 above the previous income level. Category V (Table 6) includes all the households reporting income of more than Rs. 50,000.

It is evident from Table 6, that the low income households are more dependent on the informal source of loans than those with higher income. For example, in the lowest income bracket of Rs. 10,000 and below almost two-third of the households have borrowed from the informal sources. As the household income level increases, the households are seen to be borrowing more from the formal sources. The χ^2 square test of the hypothesis that the source of loans is independent of the income level of the households is easily rejected at 1 per cent significance level, thereby supporting the findings that household with higher income borrow from formal sources and households with lower income from informal sources.

TABLE 6. SOURCES OF LOANS AND HOUSEHOLD INCOME

Income Category	I	II	III	IV	V	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	10000 and below	10001 to 20000	20001 to 30000	30001 to 40000	40001 and above	
Formal	19	72	54	25	17	197
informal	31	55	20	8	15	119
Total	50	127	74	33	32	316*
			As percentage of the total			
Formal	28	57	73	78	53	62
informal	62	43	27	22	47	38

Source: Same as in table 2.

Note: 1. The χ^2-square test of independence of yields a Pearson *chi*-square of 19.97, degree of freedom of 4 and p value of 0.001.

* Excludes 8 outliers which represent borrowing by households of rupees 0.1 million and above.

Sources of Loans and Education of Head of Household

Another hypothesis that is tested is whether the education level of the head of the households influences the source of borrowing of households. For this purpose the households have been classified into four categories. Category I represents head of the households (hhds) having no formal education (i.e., illiterate and semi-literate). In

category II, III, IV we have head of households with education up to class III, class VIII and class X and above. The χ^2 square test of independence shows that source of borrowing is clearly independent on the level of education of the head of households, i.e. there is no significant association between the sources of borrowings and the level of education of the head of households (Table 7).

TABLE 7. SOURCES OF LOANS AND EDUCATION OF HEAD OF HOUSEHOLD

Education Level	I	II	III	IV
(1)	(2)	(3)	(4)	(5)
	No formal education	Up-to Class-III	Up-to Class-VIII	High school and above
Formal	93	41	37	22
Informal	66	19	33	13
Total	159	60	70	35
		As percentage of the total		
Formal	60	68	53	63
Informal	40	32	47	47

Source: Same as in Table 2.

Note: The χ^2 square test of independence of yields a Pearson chi-square of 3.45, degree of freedom of 3 and a p value of 0.326.

V

USE OF LOANS AND LOAN SIZES AMONGST UPLAND HOUSEHOLDS OF NER

For analysing the use of loans for different purposes, we have distinguished the loans into two categories - loans used for productive purposes and for consumption purposes. The former includes loans used for farm development, animal husbandry, tree plantation and for business, and other investment such as weaving, tailoring, and carpentry. The use for consumption purposes includes construction and repair of house, health and education related expenditure, purchase of food and clothing and other miscellaneous expenditures.

The distribution of loans as per the use are given in Table 8. It shows that the number of loans used for both productive and consumption purposes, with 197 of the total number of loans (62 per cent) being borrowed for productive activities and the remaining 119 (38 per cent) number of loans for consumption purpose. In terms of the source of borrowings for the productive and consumption activities, Table 8 indicates that loans for the former are being borrowed mainly from formal source, i.e., 156 out of 197 number of loans (79.2 per cent), while loans for consumption activities are mostly met by the informal sector (88 out of 119 number of loans or 73.9 per cent). The χ^2-square test of independence (at 1 per cent significance level) confirms this by rejecting the hypothesis that the source of loans is independent of the purpose for which the loans are taken.

Further, Table 8 gives the distribution of loan sizes according to purpose. It shows nearly 45 per cent of the loans borrowed for consumption purpose is in the range of Rs. 1,001 and Rs. 5,000, with about 67 per cent of the loans borrowed for the same purpose falling in the range of Rs. 5,000 and below. A very small percentage of the loans (13.5 per cent) borrowed for consumption purpose is more than Rs. 10,000. In the case of productive purpose, about 29 per cent of the loans are in the range of Rs. 10,001 to 50,000, and more than half of the loans (58.9 per cent) are in the range of Rs. 5,001 to Rs. 50,000. This relationship between loan sizes and the use of loans shows that while smaller loans are mostly used for consumption purpose, large loans are used primarily for productive purpose. The χ^2 square test of independence at even 1 per cent significance level, confirms this by rejecting the hypothesis that the size of loan is independent of the purpose or the use of loans. The two-tailed t-test of independence of the means as per use also indicates that loans for productive purpose are significantly larger than for consumption purpose at even 1 per cent significance level.

TABLE 8. USE OF LOANS AND LOAN SIZES ACCORDING TO USE*

(Rs.)

Use	Productive	Consumption	Total
(1)	(2)	(3)	(4)
Formal	156	31	187
Informal	41	88	129
Total	197	119	316
Mean	12957	7422	
Median	10000	4000	
Distribution of loan sizes as per use of loans†			
	Productive	Consumption	Total
Less than 1000	23 (11.6)	26 (21.8)	49 (15.5)
1001 to 5000	54 (27.4)	54 (45.4)	108 (34.2)
5001 to 10000	59 (30.0)	23 (19.3)	82 (25.9)
10001 to 50000	57 (28.9)	14 (11.8)	71 (22.5)
50001 less 100000	4 (2.0)	2 (1.7)	6 (1.9)
Total	197 (100)	119 (100)	316* (100)

Source: Same as in Table 2.

Notes: * Excludes eight outliers borrowed for use in productive proposes.

†Figures in parentheses are percentages.

1. The χ^2-square test of independence of source and purpose yields a Pearson chi- square of 24.9, degree of freedom of 1 and p value of 0.000.

2. The χ^2-square test of independence of purpose and the size of loans yields a Pearson chi -square of 24.5, degree of freedom of 3 and p value of 0.000.

3. Results of the t-test of equality of mean borrowings for productive and consumption purposes:

Equality of variance	*t*-statistics	Degree of freedom	p-value
not assumed	- 3.598	297.9	.000

*Excludes 8 outliers which represent borrowing by households of Rs. 0.1 million and above.

Use of Loans and Household Income

The analysis of the income level of the household and the use of loan is also undertaken to find out whether there is a distinct pattern in the use of loans by households of different income levels. For this purpose, besides dividing the households into five income levels, the use of the loan has been categorised into two main purpose; consumption and productive use. Table 9 shows that across the income levels, households borrowed for both consumption and productive purposes, with a larger proportion of the loans used for the latter purpose. There is no evidence that households of particular income level use more of their loans for one of the purposes. The χ^2 square test of independence supports the null hypothesis, that the purpose of loans and the income level of households are independent.

TABLE 9. USE OF LOANS AND HOUSEHOLD INCOME

Purpose (1)	I (2)	II (3)	III (4)	IV (5)	V (6)	Total (7)
	10000 and below	10001 to 20000	20001 to 30000	30001 to 40000	40001 and above	
Consumption	20	49	20	11	9	109
Productive	30	78	54	22	23	207
Total	50	127	74	33	32	316*
			As percentage of total			
Consumption	40	39	27	33	28	35
Productive	60	61	73	67	72	65

Source: Same as in Table 2.

Note: 1. The χ^2-square test of independence of yields a Pearson *chi*-square of 4.03, degree of freedom of 4 and p value of 0.402.

* Excludes 8 outliers which represent borrowing by households of Rs. 0.1 million and above.

VI

SUMMARY AND CONCLUSIONS

The analysis of the behaviour of rural households of northeast uplands of India in the borrowing and use of credit shows a significant variation within the region. The importance of the source of loans differs from one upland district to another. In certain upland districts of NER (Senapati), the people are mainly dependent on the informal sector for their credit needs. Overall, the maximum number of loans is supplied by the formal credit agencies, namely the commercial banks. The failure of the co-operative banks/societies in meeting the credit needs of rural households in the upland areas is supported by the findings of the baseline survey where none of the households identified co-operative societies as a source of credit. The survey shows that amongst informal sources, it is friends and relatives, and not the moneylenders that are a prominent source of credit for the rural households in the uplands of NER.

Field study undertaken by Purkayasta (2001) in Assam also shows this source serving the highest number of borrowers among all formal and informal sources in the state.

The analysis of the sources of loans and the loan size shows that loan amounts supplied by the informal source tend to be relatively smaller compared to the formal source. For example, about 72 per cent of loans from informal source is of less than Rs. 5,000, with the maximum number of loans between Rs. 1,001 to 5,000. In the case of the loans for formal source, the maximum number of loans is between Rs. 10,001 to 50,000. This points to the importance of the informal sector in meeting the credit needs of rural households for small loans that are generally used for consumption purposes.

The analysis of use of loans and the source of borrowings shows significant association with loans from formal source being used more for productive purposes and loans from informal source for consumption purposes. Also, loans for productive purpose are significantly larger than loans borrowed for consumption purpose. This finding supports the presumption in economic literature that the informal sector is more effective in financing small borrowers than the formal sector, and also point to the importance of the informal sector in meeting the credit needs of upland rural households for needs other than productive activities.

The analysis of relationship between income levels of households and use of loans shows that there is no statistical evidence to show that households of particular income level used more loans for either consumption or production purposes. However there is a significant association between income level of households and source of loans, with high income households borrowing more from formal sources and households with lower income depending more on informal sources of credit.

Received November 2007. *Revision accepted March 2008.*

NOTES

1. The plains occupy 30 per cent of the total geographically area of the Northeast but accommodates roughly 70 per cent of the population of the region.

2. The hill districts of Assam are North Cachar Hills and Karbi Anglong. In Manipur, Ukhrul, Tamenglong, Churachandpur, Chandel and Senapati are the five hill districts. In Tripura, two third of the area is hilly. However, unlike the hill districts of Assam and Manipur where majority of the population are tribals, the same is not the case in any of the four districts of Tripura.

3. Jhum cultivation refers to the practice of farmers in hill areas cultivating in a piece of forest land for some period of time after clearing it and then abandoning it and moving to a new patch of forest area only to return to the same area after a reasonable cycle of about 5-10 years, which has is some places reduced to less than 2-3 years.

4. The NERCRMP is a community based poverty alleviation project under the North Eastern Council (NEC) and Ministry of DONER, Government of India, funded by the International Fund for Agricultural Development (IFAD). The project started in 1999 with the objectives to bring about improvement in the income and well being of the rural poor in the upland area through better management of the resource base and the improvement and diversification of livelihood activities, secured through the active participation of all stakeholders.

5. These are annual income reported by the households.

REFERENCES

Burgess, R. and R. Pande (2003), Do *Rural Banks Matter? Evidence from the Indian Social Banking Experiment*, Discussion Paper DEDPS/40, The Suntory Centre, London School of Economics and Political Science, London, U.K.

Government of India (2001), *Union Primary Census Abstract*, Office of the Registrar General India, New Delhi.

Mohan, R. (2004), "Agricultural Credit in India: Status, Issues and Future Agenda", *Reserve Bank of India Bulletin,* Vol.58, No.11, November, pp. 993-1006.

NEC (2002), *Basic Statistics of NER*, North Eastern Council, Government of India.

Poffenberger (2005), *Community Forestry in Northeast India*, Community Forestry International in http://www.communityforestryinternational.org/ publications/research_reports/Community Forestry in NE India.pdf.

Purkayastha, G. (2001), "Rural Indebtedness in Assam", *Economic and Political Weekly*, Vol.36, No.25, June 23-29,pp. 2239-2241.

Ray, D. (1999), *Development Economics*, Oxford University Press, New Delhi.

Reserve Bank of India (2006), *Report of the Committee on Financial Sector Plan for North Eastern Region*, (Chairman U. Thorat), Mumbai.

Reserve Bank of India (2004), *Report of the Advisory Committee on Flow of Credit to Agriculture and Related Activities from the Banking System* (*Chairman S. Vyas*), Mumbai.

Sidhu, R.S. and S.S. Gill (2006), "Agriculture Credit and Indebtedness in India: Some Issues", *Indian Journal of Agricultural Economics*, Vol.61, No.1, January-March, pp. 11-35

Umdor, S. and P. Panda (2006), *State of Infrastructure in Meghalaya*, Background paper for the Meghalaya State Development Report. Government of Meghalaya.